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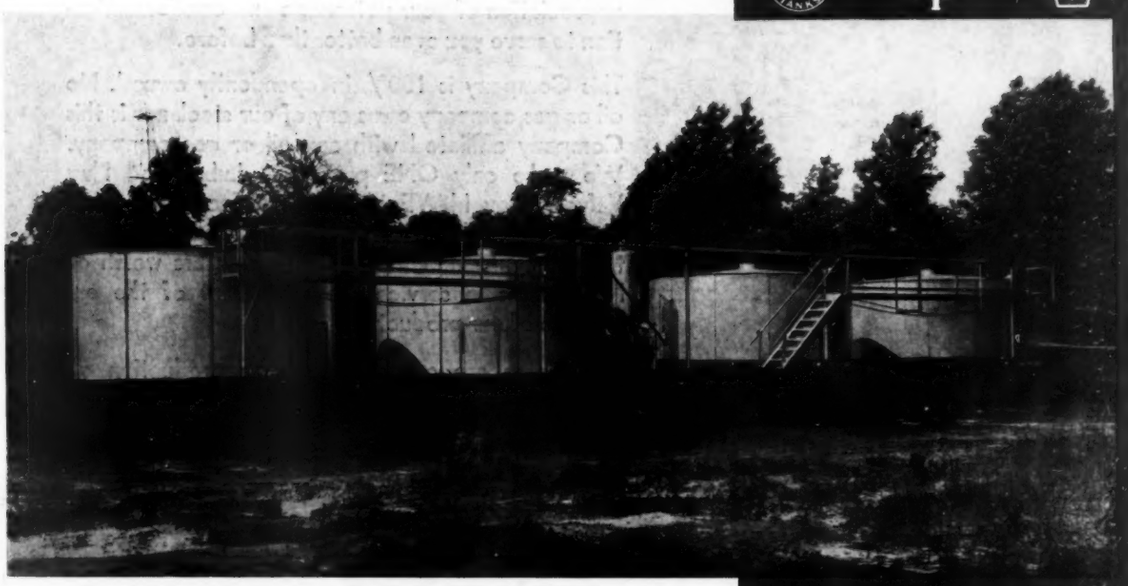

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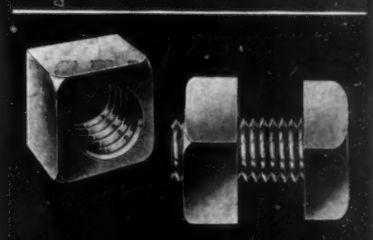

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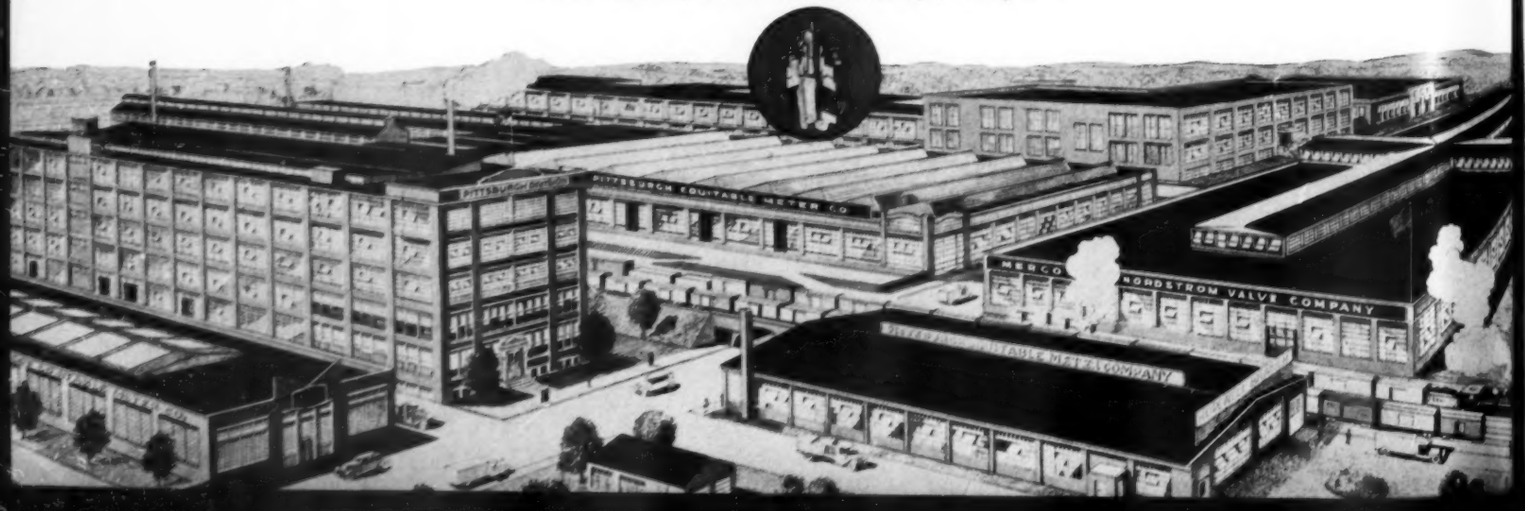

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On pages 168 to 216 of the 1936 Composite Catalogue, you will find full descriptions, illustrations and specifications.

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Raise Promised California If It Curtails

By ANDREW M. ROWLEY

WHILE PRODUCERS in other sections of the country are carrying on an especially active drilling campaign in the search for crude and purchasers are scrambling for new connections, the industry in California is faced with disaster unless production there is curtailed quickly by about 145,000 barrels daily, according to K. R. Kingsbury, president of the Standard Oil Company of California. He said that at the December rate of production (680,250 barrels daily) all available storage for crude or its products would be filled within a relatively few weeks and "it is unnecessary to outline the chaotic conditions which would prevail if that should occur."

That there is a brighter side to the picture, however, is indicated by Mr. Kingsbury who stated his company will advance crude oil prices to a base price of $1.10 for 27 gravity Signal Hill, an increase of 20 cents, with corresponding adjustments for other gravities and fields, if production is curtailed to 537,000 barrels daily with an equitable break down of this figure applied to the various fields. This base price would be the highest paid in California since early in March, 1931.

The crude oil price structure in other sections of the country, following the recent advance, is firm, strength in the refined oil market relieving fears on the part of some that the crude price increase might have been premature. The natural gasoline market was strengthened materially when four plants in the Texas Panhandle shut down because of court action involving the Texas gas conservation law.

Production 2,843,823

Increase 24,684

Field operations throughout the country continue at a high level. Despite the situation in California operators there are planning an aggressive drilling campaign for this year in an effort to discover needed reserves. In Michigan, showings in three wildcats have stimulated activity, one of these wells being located in Lenawee County, near the Ohio line. Operators in the Gulf Coast are watching the second test in the Cheneyville, La., field, discovered last November by a well which found the first production in Louisiana from the Cockfield sand.

Operators throughout Southwest Texas are especially active, 19 producers being completed last week in the Loma Novia field alone. The same situation prevails in Oklahoma and Kansas with the southern part of Oklahoma getting the greatest play. Another wildcat has been started in Love County within a few miles of the Red River. In the Fitts pool, Oklahoma, E. H. Moore and others completed a well which made 1,657 barrels in one hour. In Kansas 32 wells were completed with production ranging from 5 to 11,042 barrels daily each.

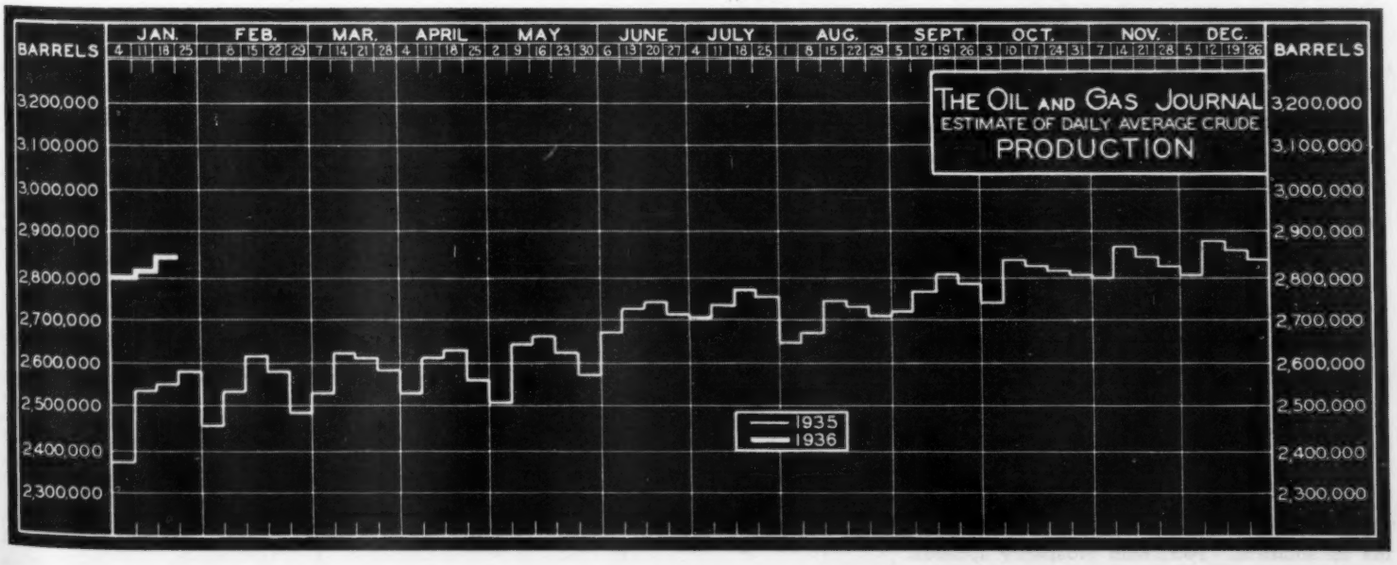
Daily Average Production for Week

	Jan. 18 1936	Jan. 11 1936	Jan. 19 1935
Oklahoma City	141,075	133,200	166,120
Seminole-St. Louis	92,000	88,150	95,250
Remainder of state	273,075	265,575	236,925
Total Oklahoma	506,150	486,925	498,295
East Texas	441,597	440,471	440,307
West Texas	146,910	138,667	149,247
North Central Texas	82,050	89,781	88,494
Texas Panhandle	58,198	55,706	60,957
East Central Texas	42,897	47,254	51,660
Gulf Coast—Texas	203,504	203,589	173,803
Southwest Texas	67,550	66,678	57,272
Total State of Texas	1,042,706	1,042,146	1,021,740
North Louisiana	49,390	47,945	23,490
Gulf Coast—Louisiana	130,079	127,394	86,703
Total Louisiana	179,469	175,339	110,193
Santa Fe Springs	54,450	54,500	39,250
Long Beach	77,150	77,500	64,500
Mountain View	34,150	34,500	14,750
Kettleman Hills	89,250	97,100	64,900
Remainder of State	419,350	418,800	328,600
Total California	683,350	682,400	512,000
Kansas	139,675	143,350	143,200
Arkansas	30,020	30,095	31,930
Eastern Fields	108,900	106,700	105,000
Michigan	42,113	39,074	31,089
Rocky Mountain area	111,440	113,110	97,230
Total United States	2,843,823	2,819,139	2,550,677

Crude Oil Stocks in U. S.

(BUREAU OF MINES ESTIMATES)

Week ending Jan. 4, 1936	298,499,000 bbls.
Week ending Jan. 11, 1936	297,783,000 bbls.
Week ending Jan. 12, 1935	321,624,000 bbls.



Sparks from the News

The Bureau of Mines estimators and the Texas Railroad Commission are making it approximately unanimous.

Coordinator Berry's Council for Industrial Progress does not appear to be making any.

The taxation situation is reported obscure at Washington, but it will be painfully plain all too soon.

Mr. Kingsbury seems bent on showing California overproducers how absurd they look.

Elliott Roosevelt is reported to have an interest in a wildcat being drilled in Yoakum County, Tex. Will he be for federal control?

One of the indictments of the British government brought by the London Morning Post is that "oil supplies in the event of war would be in jeopardy." Which may explain why oil sanctions have been sidetracked.

Above ground stocks of all oils in California were reduced 41,000,000 bbls. between January 1, 1933 and December 1, 1935. What became of this empty storage?

Argument at the hearing on East Texas ranged from opinion that there are more than enough wells now to a prediction of a possible total of 50,000. Either way the field's measure has been taken.

The New York World-Telegram admonishes the state legislators that "the automobile is no longer a luxury and taxation should not discourage its democratic use." Good!

An Italian engineering commission proposes letting the Indian Ocean into the Danakil Basin 500 feet below sea level to permit water shipment of oil when found in the Aussa region of Ethiopia. The drillers may let the ocean in first.

Criminal or civil action is to be taken against 1,500 persons accused of gasoline tax evasion in Colorado and Kansas. Evasion has been costing Colorado $1,500,000 in taxes annually and it has been decided to do something about it.

Professional politicians in the Mid-Continent area will experience a real new deal unless they give more careful attention to mounting taxes and governmental expenditures. The Mid-Continent Oil & Gas Association means business.

Pampa, Texas, business men report a 45 to 50 per cent gain in credit sales and collections following the improvement in the oil situation. Petroleum prosperity spreads.

Late in January, 1935, Mid-Continent skimming plants grossed approximately 98 cents a barrel from dollar crude. Late in January, 1936, with crude oil prices 10 to 15 cents higher, these plants are grossing $1.35 per barrel. The answer is refined marketing stabilization.

A man of the year may not have been developed in the petroleum industry in 1935, but it did bring real cooperation from a greater number of men of the industry than ever before.

Supreme Court decision on other new deal legislation has been delayed two weeks. Only another reprieve?

Prices of petroleum products apparently are now being based on the cost of crude rather than the selling price of gasoline, one observer said, in describing the recent price increase as a step in the right direction.

The petroleum industry will not be lacking in trained recruits for its scientific divisions if the heavy registration reported from petroleum engineering schools is any criterion.

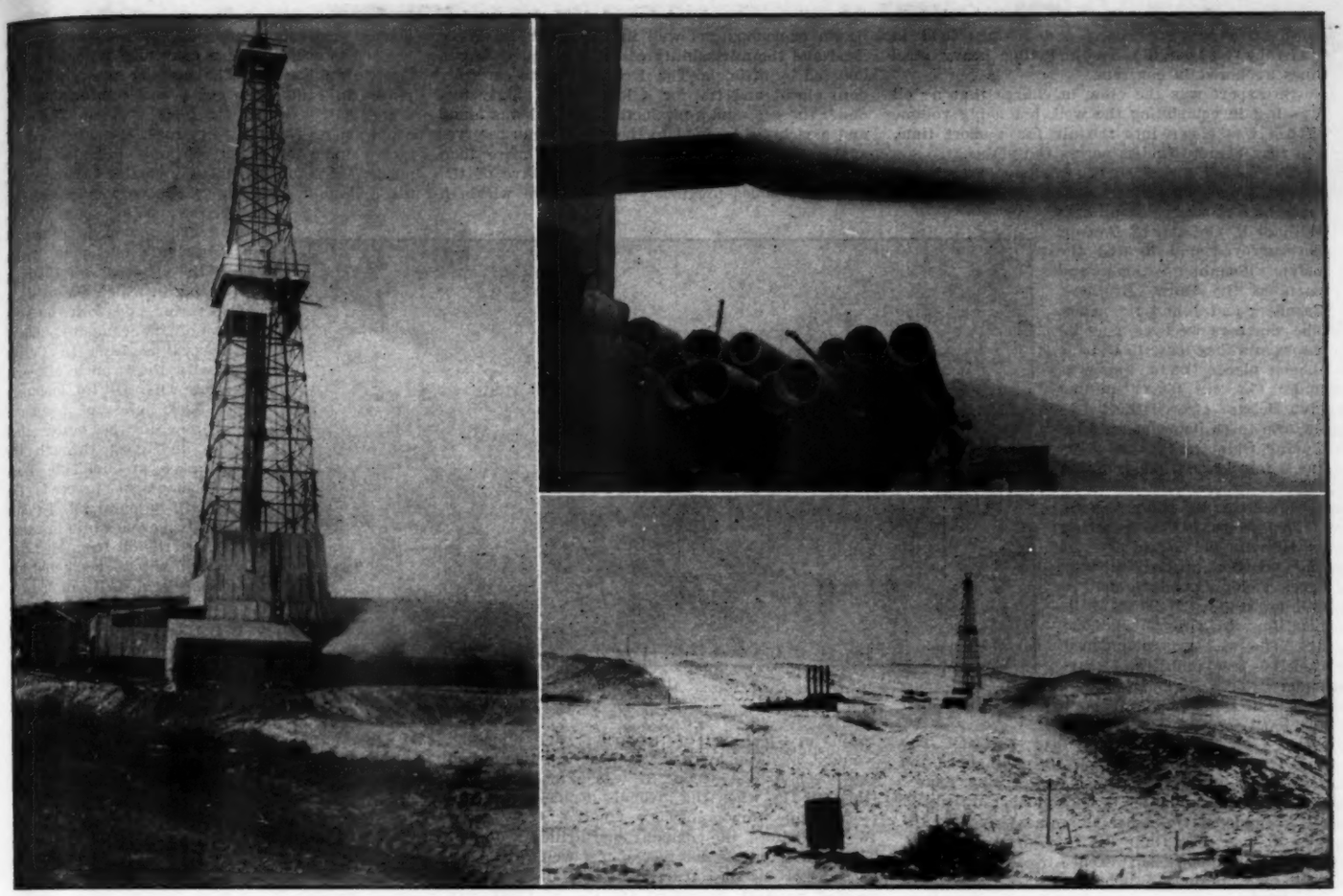
Secretary Ickes observes that the crude price increase shows what controlled production can do. But, he might have added, not necessarily federal control.

The Department of Commerce still rates the wholesale price of petroleum products at 52.5 per cent of the 1926 standard, based on latest data available. All other wholesale commodities have advanced from 75 to 95 per cent of the 1926 basic figures.

Automobile exports are returning to pre-depression totals indicating renewed acceleration in world motorization and need for gasoline and motor oil.

The 50 city average price of service-station gasoline has increased .41 cent since January 1, the present price equalling that of the best record in 1935, 4.10 cents.

That new Philippine government is feeling its oats. One of its first acts was to cancel 31 oil concessions.



Left—View of No. 1 Kyle, discovery well, tested 6,100 bbls. of 63 gravity oil and 81,000,000 feet of wet gas. Top right—Close-up of discovery well gassing from upper Sundance sand; roar was heard for 15 miles. Lower right—No. 2 well on state land nearing completion

Eighty Million Foot Gas Well Leads to Discovery of Wyoming Field

By JOHN P. HERRICK

One of the richest oil and gas fields ever discovered in the Rocky Mountain area is under development on the Big Medicine Bow structure in Carbon County, Wyoming, 80 miles east of the Continental Divide, 50 miles from the Colorado line and 7,200 feet above sea level.

The field lies between the famous Oregon Trail and the Overland Trail in one of the historical regions of the state. The new strike follows many years of exploratory drilling on this structure and the expenditure of more than $750,000. One test was drilled within 600 feet of the discovery well, not deep enough to tap the rich sands.

The gusher well, known as No. 1 Kyle, drilled on government land, is more than a mile deep, 5,392 feet to be exact, and cost $130,000. The well tests for an initial daily production of 6,100 bbls. of light amber oil of 63 gravity, 75 per cent gasoline, oil temperature 86 degrees, from the lower Sundance sand. A motor car runs smoothly using this oil as it comes from the well. The upper Sundance, located 60 feet above the oil sand, tests 81,000,000 feet a day of wet gas showing more than 2 gallons of recoverable gasoline per 1,000 feet.

Test well No. 2 is on state land, three-quarters of a mile southeast of the discovery well, and tested 135 bbls. of oil an hour and 16,000,000 feet of wet gas a day from the first Sundance sand. This well is still drilling ahead in search of deeper productive sands. Well No. 3 is drilling below 4,000 feet on Union Pacific lands, one location from the Kyle well.

Photographs in this article taken by C. J. Hares, geologist, Ohio Oil Co.

The Union Pacific Railroad owns the oil and gas rights under every odd-numbered section in the field, and oil shipments will add millions to freight income. Seven thousand acres of leases surrounding the discovery well are jointly owned by the Ohio Oil Co. and Standard Oil Co. of California, with the former company in charge of operations. The two test wells prove about 1,200 acres of leases. Field maps indicate the oblong productive area will extend 6 miles north and south and average 2 miles in width. Only four other oil fields have been developed so high above sea level, all in the Rocky Mountain area.

A contractor, with good luck, can complete a well in five months from the day the drilling rig is moved to location and moved off. The steel derricks are 136 feet tall. Lighted by electricity, they stand out in the desert night like Christmas trees. The battery of four 125-horsepower drilling boilers convert 1,500 bbls. of water into steam daily and consume 1,000,000 feet of natural gas every 24 hours in good weather and a fourth more in cold weather. The rotary drilling crew of five men work in eight-hour shifts, midnight to midnight, seven days a week. The drilling outfit generates its own electricity.

Large quantities of bentonite are required for mud in rotary drilling to seal the walls of the hole and bring out the drillings. A large deposit of bentonite was discovered near the field by geologists. Bentonite is a smooth, gray rock that soaks up 13 times its weight in water, making a paste that is as slippery as the skin of a live eel.

In the discovery well 391 feet of 14½-inch casing was used and 5,159 feet of 7-inch casing. One thousand sacks of cement were used to cement casing to the top of the first Sundance sand. The string of tubing was 2½-inch.

By an ingenious device worked out by John MacFadyen, vice president and head of Ohio Oil's production department, the well can be flowed either as a gas or oil well. Each sand can be produced independently in the same hole, oil through the tubing and gas through the casing. So far as known, this is the first well in the country to be completed in this manner. The pressure of the oil sand is 1,100 pounds and of the gas sand 1,900

pounds to the square inch. The well is shut in with many valves, clamps and fittings held in place by modern devices, including heavy steel lines anchored in concrete.

So expert was the crew in charge that no oil was lost in completing the well, but a big volume of gas was blown into the air for a short time, the roar heard 15 miles across the plains.

The search for oil on Big Medicine Bow began 23 years ago. The first man to geologize, locate, lease and prospect for oil was William P. DeLaat, of Denver. He surveyed and located the public domain sections and parts of the Horne Brothers, Cronberg and Johnson ranches. The ranchers were used as locators and they lease to DeLaat the oil placer tracts. This was under the old placer mining law. DeLaat offered the leases for sale to major companies including Ohio Oil Co. and Roxana Petroleum, but nothing came of it.

William and Arthur Hjorth, of Jamestown, N. Y., operating as Hjorth Oil Co., owners of shale oil wells in the West Salt Creek field, agreed to drill a well on section 26-21-79, Medicine Bow, to a depth of 4,000 feet. The well was abandoned at 1,700 feet and leases surrendered. This original well was started in December, 1913, and completed in 1914. The hole is within 1,200 feet of the Kyle discovery well. The Ohio Oil Co.'s geologist, C. J. Hares, mapped the structure in 1917 and recommended drilling. Leases were secured and a test well commenced July 3, 1917, completed December 12, same year at 2,130 feet. It was dry. Ohio Oil Co. surrendered the leases. The company had reached its objective without having obtained production.

In 1923 leases were assembled by Southwestern Petroleum Co. and Cliff Petroleum Co. in which Howard Forman, David Gunsberg and Ralph Hockstetter of Buffalo, N. Y., were large stockholders. The first test well drilled started at 200 bbls. a day in a sand tapped at 4,033 feet, but declined rapidly. After being drilled deeper the well flooded with water and was abandoned.

It was on account of the oil showing in this well that William Kyle and his partners kept alive their government permits, previously taken out, until riches came to them. After drilling four wells, varying in depth from 2,185 to 4,968 feet and expending more than half a million dollars, the Buffalo group sold the equipment and assigned the acreage to the Texas Co. in September, 1926. The transfer was subject to an agreement with Producers & Refiners Corp. to commence a well on or before November 5, 1926, and drill it to a depth of 4,500 feet. This was necessary to prevent expiration of leases. The test well was completed in May, 1927, at 4,260 feet. It was dry and abandoned. Pipe still in the hole and marking the location is less than 700 feet from the discovery well and within 90 feet of No. 3, offset well, now drilling on Union Pacific land. As a result of the test and expiration of certain leases the Texas Co. sold the equipment and retired from the field in April, 1928.

Silence brooded over Medicine Bow for five long years. In 1933, Ohio Oil Co. desired to develop a reserve gas supply for its line from the Allen Lake field, north of Medicine Bow, to Laramie. After making a detailed geologic map of the dome it was decided to make a deep test of Medicine Bow structure, and leases were again assembled. A geophysical crew made an examination and report, but the results were negligible and the test location was made on the basis of surface geology. Drilling on No. 1 Kyle commenced December 2, 1934, and the well was completed June 6, 1935. It proved to be an enormous gas well in the upper Sundance sand and the advisability of drilling it deeper was debated by officials. The decision was to carefully core ahead and try for a lower sand. Sixty feet under the gas sand a productive oil sand was found and a rich field added to the oil and gas reserves of Wyoming. No. 1 Kyle blew in for more than 6,000 bbls. of high grade oil a day. Five of the seven dry holes previously drilled were within a radius of 2,000 feet of the gusher and all seven would have been large oil and gas producers had they been drilled deeper. It was a lucky day for Ohio Oil Co. when the officials decided to return to Medicine Bow and make another test, where 16 years before, the company had drilled a duster. That hole is within 400 feet of test well No. 2, second gusher on the structure. After Ohio Oil Co. decided to drill, Standard Oil Co. of California was invited to share the expense of No. 1 Kyle for a half interest in the well and 7,000 acres of leases.

View of big Medicine Bow structure, discovery well, and Elk Mountain on right

The elevation of the discovery well is 7,272 feet or 1.4 miles above sea level and 732 feet above the railroad station at Medicine Bow. The Illinois Pipe Line, subsidiary of Ohio Oil Co., has completed a 10-mile air line pipe line from the battery of storage tanks in the field to the loading rack on the Union Pacific switch. No pumping station is needed as the oil runs by gravity to a 10,000-bbl. receiving tank and then into tank cars for shipment to refineries. The water lines in the field are buried to a depth of 5 feet. A temperature of 40 below zero is registered in cold winters. The area is a treeless, desert region, dotted with sage brush and greasewood.

The Ohio Oil Co. has built a permanent oil camp on Big Medicine Bow near the discovery well at an elevation of 7,300 feet, highest point in the field. The camp buildings are lighted by electricity, heated by natural gas, supplied with water from a private system and have a septic sewer system. The health of the employes is zealously guarded. The main building is a combined office and warehouse, modernly equipped. The superintendent's house has every modern convenience, including an electric refrigerator. The sleeping quarters for employes in cabins are clean and comfortable. The dining hall is roomy, the food excellent. The cooks are women. Tomato soup, roast beef, mashed potatoes and turnips, lettuce and egg salad, olives, pickles, apple and blackberry pie, ice cream, coffee, tea and milk, made up the noon meal menu the day the writer spent in the field. The camp is connected by a private telephone system with the 10 other oil fields in Wyoming in which Ohio Oil Co. is operating and with the head office of the company and of Illinois Pipe Line in Casper and with the branch office in Laramie. Ohio Oil Co. has more than 1,000 miles of telephone pole lines in the state. Mail comes and goes through the post office at Medicine Bow. As development proceeds the camp will be enlarged. To date there is only one radio in camp.

Where the oil from Medicine Bow field will be marketed has not been decided. Its high gasoline content will make it attractive to refiners. There are five refineries within a radius of 219 miles and a sixth at Salt Lake City, 406 miles west. The nearest refinery is at Parco, on the Union Pacific, 50 miles west, owned by Sinclair Refining Co. At Casper, 80 miles north, Standard of Indiana, Texas Co. and Socony-Vacuum have well equipped refineries. In Denver, 219 miles southwest, Contintal Oil Co. has a modern refinery. Utah Oil & Refining, subsidiary of Standard of Indiana, has a modern refinery at Salt Lake City. All of these refineries are purchasers of crude oil and distribute petroleum products in the Rocky Mountain country.

Another outlet would be to build a pipe line, 150 miles from Medicine Bow to Clayton, and deliver the oil to Standard of Indiana's 600-mile pipe line that runs to St. Louis. Standard of California and Ohio Oil Co. are both refiners and distributors as well as large producers of crude oil. They may decide to erect a plant in Wyoming to refine the crude from their Medicine Bow wells.

A pipe line is finished from the field to the railroad, storage tank erected and loading racks ready on the switch at Medicine Bow. The Union Pacific as the only railroad available for moving the oil from the terminus of the pipe line to refineries will profit greatly from the tank car traffic, which may likely total millions of tons. The gas from the Medicine Bow field will be a source of large income to the operating companies. It is rich in gasoline, which will be recovered by passing it through a modern gasoline plant and the dry gas will have a ready market in towns and cities east and west along the Union Pacific. Laramie and other markets will thus be assured an ample, uniform supply of gas for years to come.

With proration in force in a majority of the oil fields in the United States, it is likely Medicine Bow will be developed slowly and in an orderly manner. The oil will be produced only as rapidly as the markets can absorb it at a profitable price. Present plan is said to be to drill one well on each 40 acres. This would insure a large recovery per well and long life to the field, with a minimum of drilling expense. Just how many of the 7,000 acres under lease on the structure will be productive, no one knows. The two wells drilled prove up about 1,200 acres. One geologist says 1,600 acres will be productive. Another says 2,000 acres and still another authority believes that 4,000

(Continued on Page 78)

Front view of discovery well with derrick removed, as it appears today

Subsidiary Companies to Be Divisions Under New Plans of Reorganization

By ANDREW M. ROWLEY

Plans are under consideration by holding companies and large integrated units in the petroleum industry to adjust during this year their set-ups regarding subsidiary companies so that the holding company or integrated unit will be a strictly operating concern. Various factors have forced this step, generally regarded in the industry as entirely logical. It is in line with the growth of the business and the realization of the interdependence of the producing, refining, pipe line and marketing branches of the business.

Under arrangements being considered and worked out many subsidiary companies will become divisions or departments of the present holding companies. It is not contemplated there will be any changes in personnel although, in instances where the plans already have been made effective, there were changes in titles of executive officers. Presidents of subsidiary units became general managers and vice presidents, assistant general managers. The name of the company was dropped and it became such-and-such a department of the main company.

Federal legislation affecting holding and operating companies has hastened this readjustment in the petroleum industry as well as in other industries. This conversion of holding companies into operating companies is not confined to the oil business but is being carried out in all large industries. The steel business has been changing its set-up for some time, the most recent example being the announcement that the $600,000,000 Bethlehem Steel Corp. has taken initial action towards a realignment of its corporate structure which includes the merger of a number of subsidiaries with the holding company. Previously the United States Steel Corp. had taken action in line with more economical operation under this recent federal legislation.

The federal Revenue Act of 1934 took away from holding companies the privilege of filing consolidated income tax returns. Such privilege, by that act, was limited to railroad. Companies could not deduct losses sustained in operation of subsidiaries from any profits which might have been made by other subsidiaries. In addition that revenue act imposed the normal corporation income tax on 10 per cent of the dividends paid to a holding company by its subsidiary, whereas previously, such payments were exempt from federal taxation.

This legislation placed holding companies at a distinct disadvantage in comparison with strictly operating units both by pyramiding taxes and in preventing deductions of losses sustained in any one or more branches of the business from profits which might have been made in another division of the company's operations.

The Revenue Act of 1935, effective January 1 of this year, further stimulated executives of holding companies to make effective as soon as possible changes in their corporate set-up. A provision of the act grants exemption from the tax on profits on property received through corporate liquidations. That section of the act follows:

"No gain or loss shall be recognized upon the receipt by a corporation of property (other than money) distributed in complete liquidation of another corporation, if the corporation receiving such property on such exchange was on the date of the enactment of the Revenue Act of 1935 and has continued to be at all times until the exchange, in control of such other corporation. As used in this paragraph 'complete liquidation' includes any one of a series of distributions by a corporation in complete cancellation or redemption of all its stock in accordance with a plan of liquidation under which the transfer of the property under the liquidation is to be completed within a time specified in the plan, not exceeding five years from the close of the taxable year during which is made the first of the series of distributions under the plan. If such transfer of property is not completed within the taxable year the commissioner may require of the taxpayer, as a condition to the non-recognition of gain under this paragraph, such bond, or waiver of the statute of limitations on assessment and collection, or both, as he may deem necessary to insure the assessment and collection of the tax if the transfer of the property is not completed in accordance with the plan. This paragraph shall not apply to any liquidation if any distribution in pursuance therof has been made before the date of the enactment of the Revenue Act of 1935."

The general plan being followed to effect the new arrangement and to permit the holding company to operate most economically and without disadvantage in comparison to other companies in the same business whose corporate structure places them in the category of a strictly operating company, as defined by federal legislation and the revenue acts, is to transfer to the parent or holding company the property of the subsidiary and the business previously carried on by the subsidiary has been designated a department or division of the holding company.

In line with plans known to be under consideration by other companies, the following announcement made by the Standard Oil Co. (New Jersey) is rather significant: "Famous all over the world since 1927 wherever tankers bring their cargo of oil, the Standard Shipping Co. passed from the seas on December 1—but in name only. For internal organization reasons, the company was merged with the Standard Oil Co. of New Jersey (Delaware) and will henceforth function as the Marine Department of the Delaware company. R. L. Hague, former president of the Standard Shipping Co., continues in charge of marine operations as general manager of the new Marine Department, with R. F. Hand and P. H. Harwood, former vice presidents, as assistant general managers."

Early development of the petroleum industry made the formation and operation of individual companies in each branch of the business a natural method of procedure. But as producing operations were extended over many states, necessitating the construction of vast systems of pipe lines and the entrance of many companies into the refining and marketing phases of the business, centralized control of all operations became necessary.

This present system of conducting operations as an integrated company with one control over all branches and activities of the business will not be changed by the revenue acts of 1934 and 1935, but many companies will lose their present individual identities with the liquidation necessary by this federal legislation and many company executives will have different titles when the reorganization plans are made effective.

Crude Oil Price Advance of Twenty Cents Offered California Producers

LOS ANGELES, Calif., Jan. 20.—Crude prices in California will be advanced 20 cents, according to announcement by the Standard Oil Co. of California, if production is reduced to the limit of 537,000 bbls. daily set by the Central Committee of Oil Producers. The announcement by President K. R. Kingsbury of the Standard follows:

"To our lessors and producers from whom we purchase crude oil:

"The condition of the California oil industry is now critical. You should know the details.

"During the period when the Petroleum Code was administered under the N.R.A., as well as the period several years prior thereto, curtailment was more or less effective. Since the termination of curtailment effort, conditions have gone from bad to worse. We are approaching disaster.

"The State Oil Umpire reports a daily production of crude oil last December of 680,250 bbls. in this state. Of this the seven largest buyers of crude oil purchased 261,843 bbls. daily. During the month these companies added 3,784,106 bbls. of crude or its equivalent to storage.

"The U. S. Bureau of Mines recommended for California in January a production of 517,800 bbls. daily. Statisticians of the same seven purchasing companies, in conference, each having complete information as to his company's commitments and prospective sales for the year, together with their combined estimate of other demands outside of their own, determined that a production in the State of California averaging 537,000 bbls. per day for the entire year would neither increase nor decrease oil in storage during the year and would fully meet demands.

"A detailed study of the storage situation of these seven companies indicates that at the December rate of production all available storage for crude oil or its products would be filled in a relatively few weeks. It is unnecessary to outline the chaotic conditions which would prevail in the industry if that should occur.

"Lessors and royalty owners, as well as producers, are vitally interested in the prevention of this disaster. At a meeting January 17 of the Central Committee of California Oil Producers, a resolution was adopted recommending that the production in the state be curtailed to 537,000 bbls. per day. If an equitable break-down of this figure as applied to the various fields in the state is made and the production brought down to the figure indicated, the Standard Oil Co. of California will increase the prices it offers for crude oil purchased by it at the well to a base price of $1.10 per barrel for 27 gravity, Signall Hill crude oil, (an advance of 20 cents) with corresponding adjustments for other gravities and other fields in accordance with the usual practice. This new schedule will not only cover refinable crudes, but will also include an advance of at least five cents (5c) per barrel in the base price for heavy crude oil.

"The company believes that under the above conditions this advance in price is economically justified. Your constructive and active cooperation in this effort is earnestly solicited."

Association Starts Vigorous Campaign Against Discriminatory Taxation

The menace of increasing and discriminatory taxes levied on the petroleum industry and the rising tide of governmental expenditures will be fought vigorously in the states of Oklahoma, Kansas, Texas, Louisiana and Arkansas, through a reorganized Mid-Continent Oil and Gas Association. The executive committee of the Kansas-Oklahoma Division, at a meeting in Tulsa this week, approved the program for aggressive action along these lines and authorized the immediate putting into effect of the plan. The Texas Division will hold a meeting in Fort Worth Saturday

ROBERT S. KERR

to take steps to carry out the work in that state. The reorganized Louisiana-Arkansas Division will have the program adopted in Tulsa as a guide to its activities.

Robert S. Kerr, president of the Kansas-Oklahoma Division, will direct the campaign in his division, he having taken over the duties formerly held by Walter Ferguson, executive vice president of the division who resigned, effective January 1. Owing to this arrangement it was decided not to fill, at this time, the office made vacant by Mr. Ferguson's resignation.

Jake L. Hamon, of the firm of Cox and Hamon, independent operators of Fort Worth, who was elected president of the Texas Division by the directors of that division on January 15, has called the meeting for Fort Worth next Saturday and Mr. Hamon will actively supervise the work to be done in Texas. Mr. Hamon succeeded E. T. Moore, president of Simms Oil Co., who felt forced to resign because of the necessity of devoting more time to his other interests.

The program of the association contemplates making everyone tax conscious; to compile and disseminate complete and accurate data regarding governmental expenditures; to ascertain the legitimate needs of state governments and their subdivisions for revenue; and to determine where economies might be effected in state government. In this connection the program adopted in Tulsa says: "No one accurately and indisputably knows the fiscal condition and needs of our state government and its subdivisions, where this industry is interested; no one accurately knows the legitimate needs of the state and its subdivisions for revenue; no one accurately knows whether or not there are duplications and unnecessary bureaus and commissions in the state government; no one knows what extravagances in public expenditures characterize either the state or its subdivisions; and no one very forcibly and convincingly, at least, has been able to show the people of the state of Oklahoma where important economies might be effected in state government and in its tax gathering and tax spending subdivisions. This industry (the oil industry) must know the facts in the above particulars as they now exist and it must know those facts as they change from time to time."

The report of the reorganization committee of the Kansas-Oklahoma Division which was approved by the executive committee, contains the following statement:

Report of Committee

"This committee unanimously and most urgently recommends a very definite, thoroughgoing, and aggressive program of tax resistance and tax protection, so far as the oil industry in the states of Kansas and Oklahoma is concerned. The state of Kansas, wisely and economically administered and governed, presents no immediate problem in this regard, although every necessary step for the protection of the industry in that state, in the particulars here mentioned, should be taken. On the other hand, in Oklahoma, the menace of increasing and discriminatory taxation, so far as this industry is concerned, constantly is before us. Vividly, we should remember our experiences during the last session of the Oklahoma legislature. An 8 per cent gross production tax passed in the lower house by an absolutely unbelievable majority; and an amendment for a 12 per cent gross production tax received a number of votes. Eventually a 5 per cent tax was adopted, and, this, despite every conceivable effort and opposition that this organization and our industry at large could put forth. A number of other adverse tax measures were defeated at that session through Herculean effort; but, on the whole, our industry, as such, and this association had no standing and no influence at the session of our legislature here mentioned. Far more threatening than the imposition of most burdensome taxes on us by our legislature, where, at least, there is a semblance of debate and inquiry, is the increasing and alarming use of the initiative, where appropriations are made and taxes actually imposed by what, very justly, may be termed the irresponsible, unthinking, and indifferent vote of the people. Surely there is no oil man or oil company interested in the state of Oklahoma who does not stand aghast at the prospect before us. What are we to do about it—indulge in the hopeless philosophy built upon the expression of "what's the use" or fight. The cause of the oil industry in respect of taxes in Oklahoma is righteous and just. Your committee accordingly recommends that the fundamental policies of this organization in the future contemplate these things: (a) to assist, by all legitimate means, in the reduction of the expenses of government in Oklahoma, and in every tax gathering and tax spending subdivision; (b) to this end to enlarge our own membership to the greatest possible extent and to enlist the strong and active support of every oil organization in the state, every other business organization, and even that of individual taxpayers; (c) that if governmental expenditures generally are reduced substantially, this industry will share in that reduction; (d) but we are not content with a mere general reduction in taxes, growing out of more economical government; we feel that right now we are the victims of discriminatory taxation; (e) by making common cause with all taxpayers, by establishing friendly relations with them, by convincing them of the justice of our case, we certainly will stand a better chance of bringing the taxes now imposed upon us in line, or more in line, with the taxes imposed upon industry and taxpayers,

JAKE L. HAMON

generally; (f) in this business, vigilance must be the price of tax resistance; that resistance must be based upon justifiable grounds, and as part of the program we here propose, it should be the division's very definite position hereafter to protect itself against further tax increases and further tax discriminations, and, at the same time, and to the extent possible, reduce the taxes already imposed."

Committee Recommends Long Beach Crude Reduction

LOS ANGELES, Calif., Jan. 21.—The Long Beach district committee of the central committee of California operators, headed by William H. Geis, proposed that production for the area be cut 10,000 bbls. a day from its 78,000-bbl. a day output, which was approved unanimously. The committee members produce 42,700 bbls. of the field's total and agreed to take nearly 6,000 bbls. out leaving 4,000 bbls. to be prorated among 160 operations.

Proration will not be on individual wells, but among companies and will be based on the average daily output for October, November and December.

Operators in the San Joaquin Valley region warmly commended the stand of the Long Beach group and expressed the hope that Kettleman Hills and Mountain View would follow.

Shallow Drilling Out in Turtle Bay Presents Problem

Turtle Bay. Pump supplies water for drilling well on bank

By NEIL WILLIAMS

HOUSTON, Tex., Jan. 20.—At the extreme northern tip of Galveston Bay, separated from it only by a narrow neck of water, and surrounded by a border of low, marshy land, inundated much of the time, is a body of shallow, muddy water comprising some 4,260 acres known as Turtle Bay. There, by reason of geophysical exploration which indicated a possible deeply seated salt dome, Stanolind Oil & Gas Co. elected to drill for oil.

The first test, No. 1 A. D. Middleton, was on the north shore in the bordering marsh, 466 feet inland from the shore line. It came in December 13 flowing on a potential test 530 bbls. of 32.6 gravity pipe line oil daily through a quarter-inch choke on the tubing from a sand at a total depth of 6,626 feet. The initial showing indicated a field of considerable importance.

Drilling of a second test, No. 1 Cooper, a west offset was started early in January, and it is drilling below 6,000 feet and should find the pay within the next 500 to 600 feet. It also is 466 feet north of the shore line and is 933 feet from the producer, each well being 466 feet from the property line.

Spacing Program

These measurements are based on a 20-acre spacing program, which Stanolind Oil & Gas Co. anticipates following in the development. On the same basis, two locations have been staked in Turtle Bay, Nos. 1 and 2 State, one being 466 feet off the shore line, offsetting the discovery, and the other the same distance out offsetting the test now drilling.

Before drilling these tests, or any others in the bay, the company must obtain permits from the War Department, which must pass upon whether the structures to be erected for drilling will interfere with navigation. Complete plans and specifications have been filed for some time, and approval is being awaited.

The maximum depth of Turtle Bay is not over 3 feet while the average depth is probably not over a foot to a foot and a half. Nevertheless, it is designated as a "navigable" body of water, under the jurisdiction of the federal government.

Ownership, however, of Turtle Bay, as with all "navigable" waters within the state, and those extending 3 miles from shore along the Gulf, is vested in the state, which will have a hand in regulation of drilling and will collect the royalties. Permits first are secured from the state, and then a permit is asked from the federal government.

One of the most difficult problems is occasioned by the shallowness of the bay. The shallowness limits the use of barges and boats in transportation of equipment, materials and supplies. In Turtle Bay boats and barges which would draw much more than a foot of water could not be used without costly dredging of channels.

The first two tests waiting approval of the War Department, are to be drilled off bridges built out from shore on piling. Other tests as close to shore probably can be drilled in the same way, but if development should extend out into the bay, the construction of a network of bridges to reach the locations probably would not be considered feasible.

At this time, there is only one producing well in the field, and until other wells are completed there is no way of ascertaining which direction the field will extend. As the bay comprises the major portion of the block, the company hopes the field will extend in that direction, but except for geophysical indications there is nothing certain it will. As the picture rests, 3,560 acres of the bay is solidly under lease to Stanolind Oil & Gas Co.

For drilling the first tests, bridges were considered the only logical means of carrying on operations. In view of the uncertainty of extension of production into the bay, the company did not wish to make any large investment in barges and boats or go to the expense of dredging channels.

Bridges Used

The main bridge will be built out from shore to a point midway between the two locations, and from there lateral bridges will be erected to the locations, making the total length of the bridges around 1,400 feet.

The derrick, engines and mud pumps for each location will be set up on piling foundations at the ends of the bridge. Separate piling foundations also will be provided for the boiler for each test and for mud and fuel reserve tanks. The pile are to be driven to a minimum depth of 30 feet with the derrick floor 5 feet above mean low tide.

From the shore end of the bridge, a plank roadway will extend across the low ground bordering the bay to higher ground, approximately 3,000 feet, where there is a good shell road. This plank roadway will be laid on a dirt roadway elevated 4 feet above the low ground. The average elevation of the land around the bay is 4 feet and the maximum water rise has been 5 feet so the new roadway is expected to remain above water level.

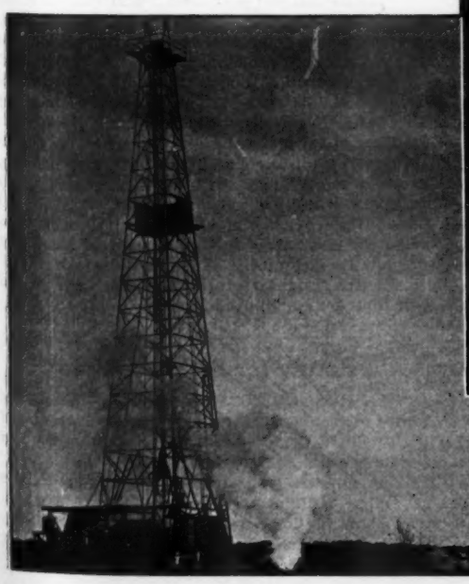
Another complication which is being faced by Stanolind lies in the fact water from the bay is being used for rice field irrigation, pumped from the bay by the Trinity River Irrigation Co. The water is kept practically fresh for this purpose by a dam across the narrow neck of water connecting the bay with Galveston Bay.

Stanolind Oil & Gas Co. will have to exert extreme care to prevent any pollution of the water. Also, the dams built at the outlet provide an oil transportation problem for the company. It is the desire to barge the oil through Turtle Bay and across Galveston Bay to Texas City, where the refinery and terminal of the Pan American Refining Co., a sister company, are located. This would necessitate removal of the dams or installation of some lock system.

To provide this outlet, the company contemplates laying a 4-inch line from the discovery

Stanolind Oil & Gas Co. No. 1 Cooper, second test and west offset to discovery, No. 1 Middleton (at right)

Insert: Hook-up of No. 1 Middleton.



to a point on Turtle Bayou, a short distance up from the bayou's entrance into the bay and a short distance from the well. There, facilities would be provided for loading barges, and a channel would be dredged across Turtle Bay into Galveston Bay where there is deep water. A number of years ago there was a 6-foot channel across Turtle Bay from Turtle Bayou through which barge lines were run but this has not been used for some time and probably would have to be redredged.

So far no oil has been taken from the field and storage is practically full. Production of the discovery has been cut down to 40 bbls. daily. This small production is being held through a three-thirty-seconds inch choke and the well at times has been on chokes as small as one-sixteenth inch. The well is flowing through the tubing with pressures running between 700 and 750 pounds. Casing pressures, with casing closed, run approximately the same. In a test completed recently, the bottom-hole pressure was found to be 2,952 pounds at 6,600 feet subsea datum. Gas oil ratio is 754 feet per barrel.

Cementing Casing

In the completion of the well, 7-inch casing was cemented at 6,589 feet with 300 sacks of cement. Thirty-seven feet of 5-inch .007 gauge screen on a joint of blank liner was set on bottom and sealed to the casing with packer. The setting was made by the Brown method, the screen being run in on tubing through a retractor type head. The tubing now is swung approximately 10 feet off bottom.

In addition to the 7-inch flow string, 18⅝-inch casing was cemented at 112 feet with 100 sacks and 13⅜-inch casing was cemented at 1,888 feet with 1,000 sacks. The well started rigging up November 6 and spudded November 11, and after drilling plug of the 18⅝-inch casing it averaged more than 500 feet of hole daily, including time for running the 13⅜-inch casing at 1,888 feet and cementing, and time for making electrical logging tests when the pay was reached.

Easy digging has been characteristic of both tests. The second test, No. 1 Cooper, on January 12 made more than 1,000 feet of hole. This test was spudded January 4 and set and cemented 16-inch casing at 88 feet January 6. On January 8 it cemented 1,366 feet of 10¾-inch casing and on January 17 was drilling at 5,957 feet. Water for drilling purposes is pumped from Turtle Bay.

OBITUARY

CLARK KENDRICK, 58, since 1918 active as an independent oil producer in the Mid-Continent field, died Monday at his home in Tulsa. Mr. Kendrick, president of the Kendrick Oil Co., had been in ill health for several months. Born in Atlanta, Ga., he moved with his parents to Philadelphia when he was 12 years old. He came to Tulsa in May, 1918, and entered the oil business.

SAMUEL COLLIER BROWN, widely known as a driller in foreign fields, died at Windsor, Ontario, on January 2.

J. W. SUTHERLAND died recently at Oil Springs, Ontario, aged 70. Mr. Sutherland was for some years superintendent of the Fairbank oil properties and from 1919 to 1925 was engaged in the Peruvian fields.

W. D. (BILL) CONWAY, 50, oil operator of Ranger, Tex., died January 19, in a Dallas hospital after an extended illness. A native of Butler County, Pa., he moved to Ranger in 1918. Prior to that he lived in Ardmore, Okla., and later, with his brother, the late Art Conway, he developed the Crosscut field in Brown County in 1926.

GEORGE CLIVE, aged 63, died at his home at Iona, Ontario, on December 30. A native of England, he was for many years in the lands department of the Central Pipe Line Co. of Chatham.

Texas Production Is Increased; East Texas on a Flat Basis

AUSTIN, Tex., Jan. 21.—The February oil allowable production for Texas was today set at 1,066,992 bbls. a day, by the Railroad Commission, 1,308 bbls. a day less than the 1,068,030 bbls. a day recommended by the Bureau of Mines.

The basis allowable for January was 1,015,146 bbls. a day, but revisions due to new completions made the flow 1,044,600 bbls. as of January 15.

The commission announced that the proration basis for East Texas field was changed from a stipulated percentage of the hourly potential to a flat rate of 432,264 bbls. a day. The January allowable was based on a 2.7 per cent of the hourly potential and which permitted output of 433,618 bbls. as of January 15.

The East Texas field allowable is to be determined from a new potential map the engineering department of the commission has formed. It calls for a "certain per cent" of each well's potential "to be calculated after each individual well potential has been determined from the new potential map."

Rodessa Allowable

While only one well has been completed in the northeast Texas extension of the Rodessa field, northwest Louisiana, the commission recommended that a daily allocation of 500 bbls. be made for the interstate sector.

The commission announced allowables for other districts as follows: (bbls. per day)

District—	February	January
Panhandle	58,800	57,800
Moore County	1,500	1,500
Osborne area	1,000	500
North Texas	58,500	57,500
Foard County	500	500
West Central Texas	50,991	50,201
West Texas	134,218	123,080
East Central Texas	49,207	42,232
Southwest Texas	116,329	104,717
Gulf Coast	163,083	148,615

Gas Allowables

The commission also set the allowable production of sweet gas for the east Panhandle area of northwest Texas at 199,045,000 feet daily, and at 625,803,000 feet for the west Panhandle zone. The authorized sour gas production for the whole field was 378,693,000 feet.

Outside of the Panhandle the sweet gas allowable figures totaled 15,212,000 feet, and sour gas production was 4,925,000 feet.

Purchase nominations filed with the commission aggregated 1,239,427 bbls. daily for February compared to the commission's January 1,015,611-bbl. allowable. East Texas with its 433,000 allowable had nominations of 499,870 bbls.

At the hearing Engineer Cottingham recommended that the East Texas present actual production of 436,102 bbls. be reduced to 425,000 because from December 12 to January 12 the bottom-hole pressure had fallen 5.4 pounds, equalling .399 pound to each 1,000,000 bbls. of oil produced, reading 1,200.8 pounds. Cottingham said this drop is excessive and should be met with a reduction in the top allowable.

The new East Texas control map was exhibited by Cottingham. He pointed out 64 interior key wells, 23 being new tests and 41 retests, no old tests being used. Of the 41 retested, 15 showed an increase and 26 a decrease in potential. The average decrease was 8.61 bbls., he said. West boundary of the field was found with 61 dry holes and the east side of 64 dry holes, making 189 all told.

There are close to 130,000 acres in the field, said Cottingham, and that the original water table of 3,320 feet below sea level "is now materially higher."

Argument on Acreage

R. E. Hardwicke said that "something ought to be done to stop the drilling of wells in East Texas. It is a matter that ought to be straightened out without delay."

Chairman Thompson inquired how.

Hardwicke answered "by stop granting exceptions to Rule 37. Every tract over there has a well or wells on it and there is no need for any more. It is high time to stop."

C. A. Lester reintroduced the affidavit of the last hearing to the effect that serious drainage is occurring because of the number of wells on adjoining tracts. He charged lesser tracts are allowed to produce more oil than the larger leases similarly situated and that either the latter must suffer immense losses or be put to the heavy expense of drilling more wells when there are already too many.

C. H. Pape urged the acreage basis as meeting the situation and asserted the commission has all needed data to substantiate such an order through expert estimates of the oil under each acre.

May Be 50,000 Wells

Freeman Burford of Dallas argued against being forced to drill more wells to produce the same amount of oil. He traced the undreamed of increase in wells, now at 20,000, and said the number may go to 50,000. He said they are unnecessary and a loss through the expense incurred. He declared acreage is the correct measure of proration and that "it is squarely up to the commission to stop these huge losses."

E. L. Smith entered his protest against existing conditions and the intense drilling, arguing that it is at the point where it will create actual waste and should be stopped.

Jack Blalock protested against changing to the acreage basis, saying, "it seems this plea is made not to end waste but to prevent the drilling of more wells. All previous testimony of experts and engineers has been that the more wells drilled the greater the recovery of oil, which is a prevention of waste."

Hardwicke and Blalock engaged in an argument as to whether Federal Judge Hutcheson had not condemned top allowable. Chairman Thompson ended the dispute by saying, "we can read the case and see what the court held."

Drainage Discussed

Hardwicke said surely the present average of one well to each 6.4 acres was enough and quoted the Brown case as upholding the property rights against unlawful and inequitable drainage. He also inveighed against any rule that lends to recognize there is as much recoverable oil on a one-eighth of an acre as there is on five acres. The one-eighth acre would drain for 10 years, he asserted.

"Let me tell you gentlemen," said Blalock gravely, "that if the present stable satisfactory condition is discarded and chaos returns through another method, the independents will not be responsible."

Suggestion that a middle ground of 50 per cent acreage and 50 per cent potential was made by Charles I. Francis, but rejected by Blalock.

Hardwicke maintained the commission has no legal right to force additional expense on operators by compelling them to drill unnecessary wells to obtain their equitable share of oil. He said one-half the wells can be closed, if properly distributed, and safely produce the same amount of oil now coming up.

"It can fix the top allowable and then make a fair distribution," he said.

Ready for Richfield Sale

SAN FRANCISCO, Calif., Jan. 21.—The United States circuit court of appeals dismissed appeals of Richfield Oil Co., creditors today, clearing the way for foreclosure sale of the company.

The appeals were made against the decision of Judge William P. James of the federal district court in Los Angeles, specifying which Richfield assets were subject to sale in settlement of some $28,000,000 creditor claims.

Kansas Pipe Line System Expansion Indicates Increased Crude Demand

By L. G. E. BIGNELL

The western half of Kansas has received considerable attention during the past two years, first through the active leasing campaign and geophysical exploration, and later by the drilling of many test wells. As a result exactly 50 discovery wells were drilled in 1935 in the entire state with the large majority of them opening new pools or definitely extending older fields in west Kansas. The discovery of new pools has not been followed by active development campaigns because of lack of pipe line outlets, but that situation is now largely relieved through the completion of the Kaw Pipe Line Co.'s new 8-inch welded line from Chase, Rice County, to Russell County pools which was opened for service the first week of the new year. This situation will be further relieved by the building of the new 6-inch welded extension of this system. This new line will start in Gorham, Russell County, and run almost due west to the Victoria pool in section 3-14-17w, opened by Twin Drilling Co. No. 1 Goetz well and the line then runs southwest to the new well of the Storm King Oil Co. and Tom Palmer in section 17-15-18w, both new areas being in Ellis County.

This new line will be 22.5 miles long and the oil will be pumped through it by an oil engine pumping unit, one in each field. The full capacity of this 6-inch line is estimated at 12,000 bbls. daily but for the time being only the prorated oil from these two wells will be handled. The January allowable for the Victoria pool is 2,736 bbls. total, and for Palmer-Storm King No. 1 Ruder well in the newly named Schoenchen pool the January total allowable is 12,913 bbls.

With the opening of the Kaw Pipe Line system for business an outlet for about 27,000 bbls. of oil has been provided, and through the rearranging of gathering systems in several fields formerly served by other pipe line systems in this area the actual relief to distressed wells has been very appreciable. As an example, the Stanolind Pipe Line Co. did gather and handle oil from a pool in Barton County in which most of the wells belonged to the Empire Oil & Refining Co. The Kaw system has taken over this entire system and will now handle their own and other oil from this field, and in this way the Stanolind Pipe Line system will have added capacity to handle oil from other pools near their trunk lines. This readjustment of well connections has been extended to other pools and wells, with the plan to permit the present pipe line systems to efficiently serve the maximum number of wells in this region.

The west Kansas oil fields are now served by six major pipe line systems. The new Kaw Pipe Line Co. was organized last year by the Texas Co., Empire Oil & Refining Co. and Phillips Petroleum Co. to serve as a gathering and transportation system to handle oil produced and purchased by those companies in fields in west Kansas. With the new 6-inch 22.5-mile long extension into Ellis County the daily capacity of the system will be about 40,000 bbls., 28,000 bbls. of which will be gathered along the main 8-inch artery and the remainder will come from pools along the new extension.

Potential Pipe Line Outlet From Western Kansas Fields

Kaw Pipe Line System including White Eagle Pipe Line Standish Pipe Line	40,000 bbls. daily
Stanolind Pipe Line System	30,000 bbls. daily
Sinclair-Prairie Pipe Line System	20,000 bbls. daily
Skelly Pipe Line System	15,000 bbls. daily
Total potential pipe line capacity from West Kansas	105,000 bbls. daily

This oil will be transported to Chase, Kans., the present southern terminal of the Kaw pipe line, where the oil purchased and produced for the Empire Oil & Refining Co. and for Socony-Vacuum Corp., with refinery at Augusta, Kans., will be delivered to the White Eagle Pipe Line Co. and carried by this system through Hollow pool in Harvey County where it is delivered into the line leading to Valley Center near Wichita. At that point the Empire Oil & Refining Co.'s oil is delivered to the Texas-Empire system for transportation to refineries of the Empire Oil & Refining Co. at Chicago or to the Texas Co.'s refinery near Lockport, Ind.

The oil gathered for Phillips Petroleum Co. is delivered into the Standish pipe line system, a subsidiary of the Phillips company, at Lyons, Kans., and by that system transported east for delivery to the Phillips refinery at Kansas City, Kans. The Standish pipe line system will also handle oils for other buyers served by this system.

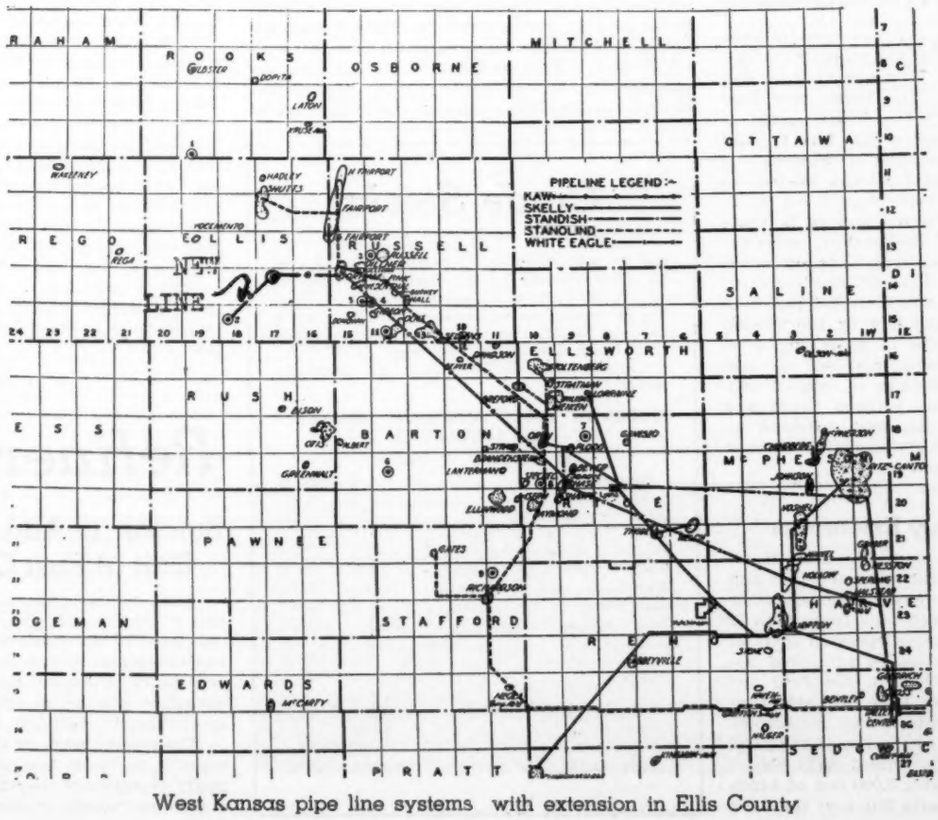
In addition to the Kaw pipe line system the Stanolind Pipe Line Co. has a pipe line in this west Kansas region with present capacity of 27,000 bbls. daily and delivers this oil to a terminal near Eldorado, Kans., and from there it is transported east through the main trunk lines passing through Humboldt, Kans. This system can handle 30,000 bbls. of oil daily from west Kansas fields.

The Skelly Pipe Line Co. also has a line extended into west Kansas but south of these other systems; it serves Kingman County pools and recently has connected with the new well of the Shell Petroleum Corp. in the Reece pool in Reno County. The Skelly pipe line system also has a branch line running north from Reno County to Lyons, in Rice County, with extension to the Lorraine pool in southern Ellsworth County. This system can handle 15,000 bbls. daily east from Burrton pool through the 8-inch lines.

The Sinclair-Prairie Pipe Line Co. has a line into the western edge of Ellsworth County serving the Chase, Steckel and Schurr pools with 4- and 6-inch gathering lines, terminating in an 8-inch line near Schurr pool. This system can be built up to handle from 20,000 to 22,000 bbls. daily when necessary.

These new pipe line systems mean much to the operators of west Kansas for they indicate there will be increased nominations for oil from pools in this region and it will also mean the drilling of many additional wells to prove up fields where only one or two wells have been completed. There were more than 20 newly discovered pools in Russell, Barton, Stafford, Trego, Ellis and Rooks Counties needing connections at the end of 1935. In addition, wells in Scott County lacked outlet by pipe line.

The pools in west Kansas still without connections are Wakeeney in Trego County, the Dopita pool in northern Rooks County, Bunker Hill field in Russell County and Bemis field in Ellis County. Also the old Webster pool in Rooks County.



West Kansas pipe line systems with extension in Ellis County

Pipe Line Progress

Stanolind Adding 85 Miles of 12-inch Loops to Whiting

The Stanolind Pipe Line Co. is increasing the capacity of its system from the Mid-Continent area to Whiting, Ind., by 10,000 bbls. daily through the construction of 86 miles of 12-inch loops and 2½ miles of 10-inch loops. Work has been started on the construction of 25 miles of 12-inch loops in Missouri, this work to be completed early in March. The remainder of the work will be delayed for some time, due to weather conditions, but the whole program is to be completed by June 5. Of the construction work 50.62 miles of 12-inch loops are to be laid in Missouri and the remainder in Illinois.

A smaller increase in capacity than that provided for in the new construction program was needed but the company felt it desirable and economical to put in the loops contemplated as this plan has numerous advantages. One is the fact it will permit the company to transport Winkler, Tex., crude without batching and without mixing with other crudes.

The Sheehan Pipe Line Construction Co. of Tulsa was awarded the contract for the construction of 50.62 miles of 12-inch loops in Missouri and is going ahead with the work of laying 25 miles of this new line. The line will be constructed of new pipe and will be electrically welded. The loops and mileage in Missouri follows: From Freeman, northeast, 9.24 miles; from Odessa to Page City Junction, 17.03 miles; from Rothville, northeast, 5.38 miles; from Ethel northeast, 7.75 miles; from Gibbs to Hurdland Junction, 8.96 miles; and from Kahoka Junction to the southwest, 2.26 miles.

The remainder of the work in Missouri will be done when weather conditions moderate and the construction program in Illinois will be carried out when ground conditions are more favorable for the work, although the entire program is to be completed by June 5.

Sinton Pipe Line Company to Take Over Plymouth Line

A new pipe line company has recently been formed in Texas to take over the Sinton Pipe Line now being laid from the Plymouth field in San Patrico county, Texas, to the Texas Pipe Line Co. terminal at Corpus Christi. The company is now incorporated as the Sinton Pipe Line Co. and the Texas Corp. owns 55 per cent of the stock and D. B. Cogswell and William Morgan interest 45 per cent. The officers of this company are B. E. Hull, president; Ira McFarland and D. B. Cogswell, vice presidents; R. B. McLaughlin, secretary-treasurer, and J. W. Emmerson, assistant secretary-treasurer with C. O. Crouch, superintendent.

This new line will be 6-inch welded pipe construction and is now being laid by the Fredell Construction Co. and will be 17 miles long. It is probable a 20-mile extension will soon be laid from Plymouth field to Refugio to connect with Texas Pipe Line Co.'s line between Grega and Refugio fields to handle oil now delivered to Humble Pipe Line Co. and transported through that system to Harbor Island terminal.

Anderson County Extensions

FORT WORTH, Tex., Jan. 20.—Tide Water Oil Co. is laying nearly eight miles of 2-inch pipe in the Cayuga field in northwest Anderson County to pick up distillate which tests from 55 to 72 degrees gravity. H. L. Hunt, independent operator of Tyler, who has production in this field has been purchasing the distillate in the field and shipping some from the Long Lake field also. During December distillate production in the Cayuga field ran 5,920 barrels and in the Long Lake field, southwest Anderson County, totaled 8,775 bbls.

Gulf Pipe Line Co. is laying 3,000 feet of 4-inch line from a station on its main line near the Long Lake field to some wells in that field to take 400 bbls. of crude daily from that pool.

Bulldozer employed for right of way work and backfilling on pipe line

Oklahoma City Line

Another pipe line outlet from the new area near the state capitol in Oklahoma City field has been afforded by the laying of four miles of 6-inch welded pipe line by the Empire Oil and Refining Co. from Coates station in the old Oklahoma City field to the wells north of N. E. Twenty-third street. This new line will be connected to the wells of Barnsdall Oil Co. and will also arrange to handle the oil being released by Sinclair-Prairie Pipe Line Co. originating on the leases of the British-American Oil Producing Co.

New Lines in West Texas

FORT WORTH, Tex., Jan. 20.—Humble Pipe Line Co. is extending its gathering system in northwest Shackleford County to tie into its wells on the Nail Ranch in sections 149 and 150, seven wells being located in these sections, having a daily potential of 200 bbls. It is also laying other lines in this area and is considering laying a line to tie into the Lueders pool across the line in northeast Jones County. Operators in the Sandy Ridge pool on the east side of Jones County, are unitizing their leases and production of six wells which have a daily potential of 180 bbls. and are planning to lay a 2-mile 2-inch line to the Roeser and Pendleton lease in the Higgs pool to which Hmuble Pipe Line Co. has a connecting line. This will give the Sandy Ridge pool a direct outlet if accomplished.

Crude Stocks

WASHINGTON, D. C., Jan. 21.—Stocks of domestic and foreign crude petroleum on January 11 were reported by the Bureau of Mines at 297,783,000 bbls., a decline of 716,000 bbls. from the preceding week. Stocks of domestic crude declined 628,000 bbls., and foreign crude 88,000 bbls. Daily average imports were 30,000 bbls., compared with 136,000 during the preceding week.

STOCKS OF CRUDE PETROLEUM JANUARY 4 AND JANUARY 11

(In thousands of barrels)

Grade—	Jan. 4	Jan. 11
Pennsylvania	4,278	4,337
Other Appalachian	767	858
Lima, Northeast Michigan	1,119	1,123
Illinois, Southwest Indiana	11,002	11,059
North Louisiana, Arkansas	9,468	9,535
West Texas, S. E. New Mexico	29,168	29,259
East Texas	20,239	19,582
Other Mid-Continent	132,011	131,561
Gulf Coast	25,547	25,530
Rocky Mountain	26,691	26,739
California	34,614	34,693
Total domestic crude	294,904	294,276
Foreign crude	3,595	3,507
Total crude	298,499	297,793

Oil Leases in Philippines Are Outlawed by Government

The new Philippine commonwealth government has outlawed 31 leases held by American and Philippines oil companies, in which operators obtained exploration leases for more than 2,500,000 acres.

The government cancelled 10 leases held by the Standard-Vacuum Oil Co., Far Eastern subsidiary of the Socony-Vacuum Oil Co. and Standard Oil Co. (New Jersey) and nullified 21 leases held by 12 local companies.

The American company's leases were banned on grounds that its corporate structure involving joint ownership made it ineligible. Interlocking directorates of the Filipino companies resulted in their contracts being outlawed.

In the spring of 1935 the Standard-Vacuum Oil Co. sent geologists to the Philippine Islands to investigate the petroleum possibilities and in October and November, 1935, filed applications for geological exploration leases in accordance with the provisions of the Philippine law.

Ten of these applications were granted and leases issued to Standard-Vacuum Oil Co., giving to it the right to make geological investigations on the areas covered by the leases, with the provisional right of acquiring drilling leases on portions of these areas within a period of one year. The Standard-Vaccum geologists remained in the Philippines to carry out the obligations under the leases recently granted, and to determine whether the company is warranted in applying for drilling leases within the area specified.

The company states it knows of no reason why these geological leases should now be ordered canceled.

West Virginia Stations Being Sued for Chain Tax

WASHINGTON, Jan. 20.—Asserting applicability of the West Virginia chain stores tax to gasoline filling stations has been ruled valid under the state and federal constitutions was made by Tax Commissioner Fred L. Fox of West Virginia in briefs filed in the supreme court.

Fox asked the court to dismiss appeals of the Gulf Refining Co. at Port Arthur, Texas, and Ashland Refining Co. of Ashland, Ky., from a lower federal court decision denying an injunction to halt collection of chain store taxes.

Referring to 82 stations handling products of the Ashland company, Fox asserted that a lease and agency agreement of the company had not been abandoned but merely modified. He asserted the Ashland Co. had agreed to be bound by a previous supreme court decision in a suit by Standard Oil Co. of New Jersey in which the chain store levy was upheld.

The commissioner also contended the "authorized license dealer" stations of Gulf Refining Co. operated in West Virginia are subject to the tax.

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Refinery Work

Sinclair to Add Polymerization Unit at East Chicago Plant

Plans for the construction of a polymerization unit at its East Chicago, Ind., refinery have been completed by the Sinclair Refining Co. The polymerization unit will be of the catalytic type developed by the Universal Oil Products Co. and when completed will operate with cracked gases totaling approximately 4,500,000 feet daily.

The present plant of the company has a crude capacity of 40,000 bbls. daily and a cracking capacity of approximately 20,000 bbls. thus insuring a sufficient supply of cracked gases.

Natural Gas News

New Panhandle Gas-Oil Ratio Survey Has Been Ordered

FORT WORTH, Tex., Jan. 20.—The Texas Railroad Commission has ordered a monthly gas-oil ratio survey of the Texas Panhandle during the first six months of 1936. At the same time the commission repromulgated its order fixing the Panhandle ratio at 10,000 feet per barrel of oil.

For some time the commission has been attempting to lower the gas-oil ratios in the Panhandle, and the monthly survey will furnish information upon which to base future orders.

Operators were ordered to make out a monthly report on a form furnished by the commission, showing for each well the daily oil potential, the daily gas potential, the gas-oil ratio, and any water produced.

The order follows:

"The commission in an order dated December 10, 1935, entitled 'Special Order Fixing Allowable Production of Sweet and Sour Natural Gas in the Panhandle District of Texas' did order each operator of oil wells to furnish to the commission's deputy supervisor at Pampa, Texas, a gas measurement to determine the gas-oil ratio thereof, on each of his wells, at least each ninety (90) day period.

"The commission is desirous to make a monthly gas-oil ratio survey of the Panhandle district of Texas for the months of January, February, March, April, May, and June of 1936.

"The commission has prepared printed forms entitled 'Monthly Producer's Gas-Oil Ratio Determination Report,' bearing complete instructions as to the information necessary and desired in making this survey. The commission believes that such a survey will be in the interest of the conservation and prevention of waste of crude oil and natural gas in the Panhandle district of Texas.

"It is ordered that paragraph 5, page 9 of said order dated December 10, 1935, be readopted and amended for the period covered by the months of January, February, March, April, May, and June of 1936 to read as follows:

"The gas-oil ratio of each well in the Panhandle district shall be kept as low as possible and no well producing both oil and gas shall be permitted to produce gas per barrel of oil in excess of the amount of gas as fixed by order of the commission, unless specially authorized by an order of the commission to vary therefrom. However, any well which, by reason of its location, mode of completion, or necessity for total fluid lift, shall be allowed to produce daily a total volume of gas equivalent to that of the well producing with the highest oil allowable within the specified gas-oil ratio from the Panhandle field proper, so long as the ratio of gas to oil does not exceed that set by statute.

"A gas-oil ratio determination shall be made on each well each month while the well is operating under normal conditions and reported to the commission's deputy supervisor at Pampa, Texas. The above-mentioned printed from, Monthly Producer's Gas-Oil Ratio Determination Report,' will be furnished each company or operator of oil wells in the Panhandle district of Texas and each operator shall file this form in duplicate with the district supervisor of the Panhandle district at Pampa, Texas, beginning with the month of January, 1936, and continuing through the month of June, 1936, said form to accompany the Statewide Form EB Monthly Producers Report."

Ottawa Gas Research

OTTAWA, Ontario, Jan. 18.—Scientists attached to the National Research Council in 1935 made considerable progress in the direction of utilizing waste natural gas from the Turner Valley field in Alberta. Definite progress was made in the production of ethylene, a starting material for the production of industrial alcohol and anti-freeze, from the Turner Valley gases. Experiments also dealt with the manufacture of carbon black and benzol, the benzol being suitable for motor fuel and the carbon black for making printing ink and automobile tires.

Bow Island Gas Storage

CALGARY, Alberta, Jan. 18.—Repressuring of the Bow Island gas field with surplus gas from Turner Valley is being continued at the rate of approximately 5,000,000 feet a day.

Gas Rate

WACO, Tex., Jan. 20.—City Attorney Sam Dardnne has been advised February 17 has been set for trial in district court at Austin of the case involving Waco's domestic gas rate. It will determine whether the reduction from 67½ cents to 59 cents per 1,000 feet, promulgated by the Railroad Commission last June, shall be sustained.

Oklahoma Natural Gets Award

OKLAHOMA CITY, Okla., Jan. 21.—The Oklahoma Natural Gas Co., whose employes, Dist. Supt. T. A. Wood said, did not lose even an hour's time last year because of accidents, today was awarded first in the national safety council contest for pipe line companies.

Wood said most major and many small oil and gas companies in the United States were entered. R. S. Huffman, Tulsa, is safety engineer for the Oklahoma firm.

Community Natural Gas Suit Is Being Heard at Austin

AUSTIN, Texas, Jan. 20.—The Community Natural Gas Co. suit in the District Court of Travis County to enjoin the railroad commission from enforcing an order reducing domestic gas rates in Wichita Falls from 67½ cents per 1,000 feet to 61 cents is on trial.

The company alleges it did not make a reasonable and fair return upon the fair value of its property, $1,398,074, as found by its valuation engineers in 1934, and the commission arbitrarily reduced this fair value to reach a rate base of $1,036,587 early in 1935. The commission disregarded the fair value set up by city engineers, 51,192,024, in its order, the company alleges, and found the lower rate base without factual basis.

The company claims it had less than one half of 1 per cent available for federal income tax, depreciation and return in 1934.

Steinberger will probably be on direct testimony most of Tuesday. The case will continue for two weeks, attorneys believe. Judge Ralph W. Yarborough is presiding.

Natural Gasoline

Panhandle Stripper Cases Are Dismissed by Federal Court

DALLAS, Tex., Jan. 21.—Temporary injunctions under which the American Natural Gasoline Co., Smith Bros., Inc., Skelly Oil Co. and Shamrock Oil & Gas Co. have been carrying on stripper operations in the Texas Panhandle were dismissed in federal court here today without prejudice to the plaintiffs. The companies were given 48 hours in which to perform the mechanical work necessary to shutting down their plants.

When the state's gas conservation law became effective last August its constitutionality was attacked in suits filed by the Sunray Oil Co., Shamrock Oil & Gas Co., and Portland Gasoline Co. These suits are set for hearing in federal court January 31. The companies whose suits were dismissed today obtained temporary injunctions against enforcement of the railroad commission's order requiring closing of the stripper operations. Postponement of hearings on the injunction suits were obtained from time to time. When the cases came up today, however, the plaintiffs asked for dismissal of the suits without prejudice to themselves and this was granted.

Other plants which did not figure in today's proceedings will close, and it is estimated that 200,000 gallons of natural gasoline produced daily by stripper plants in the Panhandle will be taken off the market.

The test cases initiated by the Sunray, Shamrock and Portland companies question the right of the state to regulate and prorate production to market demand.

House bill 266, as the gas conservation law is designated, has two aspects, one relating to the uses to which natural gas may be put and specifically forbidding that natural gas may be stripped and the residue blown into the air. The other provision vests in the railroad commission the right to prorate natural gas produced among all gas wells in the fields.

It was the contention of the complainants in the cases dismissed today that as long as interlocutory injunctions exist in favor of the pipe line companies, those operating gasoline plants in the Panhandle field were entitled to continue such operations in the face of the statute; that house bill 266 must be considered as a unit and that if the proration feature of the statute falls, the entire statute must fall.

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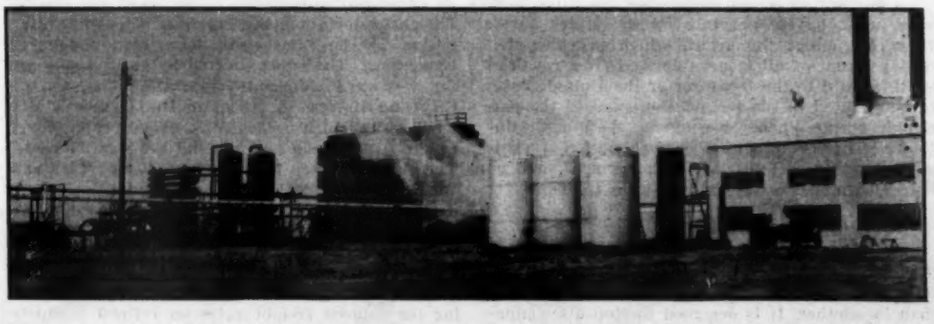
NEW 100,000,000-FOOT GASOLINE PLANT IN TEXAS



General view of Lone Star Gasoline Company's new plant in Henderson County, Texas

Three Bills Offered in Senate Affecting Petroleum Industry

By HUGH D. MALLON

WASHINGTON, D. C., Jan. 20.—Three bills introduced in the senate affect the oil industry. One sponsored by Senator Hatch of New Mexico provides for the granting by the federal government to the states of all public lands, including mineral lands, unless such lands are included in established national forests, parks, reservation and withdrawals incidental to such grants.

Another bill, by Senator Borah, of Idaho, would make it unlawful for any person engaged in commerce to discriminate in price or terms of sale between purchasers of commodities of like grades, quality, and quantity in any part of the United States. It is designed to stop the practice of allowing advertising service charges, allowances, rebates or discounts in order to obtain sales for any commodities.

A bill by Senator Copeland, Democrat, of New York, seeking a direct subsidy for shipbuilders, covers the construction of oil tankers.

Terms of Hatch Bill

The bill introduced by Senator Hatch would grant to each of the states in which public lands of the United States are found, the following public lands and interests in lands with their respective boundaries:

(a) All unappropriated and unreserved public lands, including the minerals therein;

(b) All lands withdrawn or reserved on account of coal, oil, gas, oil shale, phosphate, potash, or other valuable minerals;

(c) All lands now or hereafter restored to the public domain through the cancellation of homestead entries or other entries, rights or claims;

(d) All minerals, including coal, oil, and gas, and mineral and other rights connected therewith, heretofore reserved to the United States in lands to which title with mineral reservations has passed or will hereafter pass from the United States under the homestend laws or laws of the United States.

It is further provided this grant shall carry with it all existing contracts, permits, and leases issued by the United States to any and all lands containing, or supposed to contain, coal, oil, gas, oil shale, phosphate, potash, or other valuable minerals, and embraced under the grant made by this act. The grantee shall be substituted as the grantor in all such contracts, permits, and leases.

The right to prorate the production of crude oil from lands covered by this proposal is expressly reserved to the United States, whenever, in the opinion of the secretary of the interior, it is necessary in the interest of conservation or to prevent overproduction. The secretary of the interior is also authorized to prescribe reasonable rules and regulations for all oil and gas operation in and on such lands.

Each state must agree, if it accepts the grant of the lands covered by the bill, that it will charge reasonable royalties on all oil and gas produced from the lands covered by the grants, royalties to be paid either in money or in kind, at the option of the state.

A further agreement concerning royalties, however, must be entered into by the states before they can accept the grant, which provides that 52½ per cent of all moneys derived from royalties shall be paid to the treasurer of the United States to be credited to the reclamation fund of the particular state. Whenever congress shall determine that no further irrigation or reclamation work is advisable in a certain state such payment shall no longer be made to the United States treasury.

Borah's Bill

The bill, sponsored by Senator Borah, attempts to make it illegal for one corporation, or individual, to sell at a lower price in one part of the country than in another. It is designed to stop discrimination in prices between one customer and another, but is so broadly worded it would fix a standard price in the entire country for all products.

The ship subsidy bill would provide an annual appropriation of at most $5,000,000 to cover the cost of building, or repairing tankers, which when built or repaired would be subject to being taken over by the government in time of war, or to maintain the national defense, or whenever the president declares a national emergency exists.

The law would provide that the "United States Maritime Authority," set-up under the law, may, "with respect to any tanker hereafter constructed, pay to the shipbuilder on account of the cost of construction not in excess of" amounts which will later be decided upon as the amount to be paid per deadweight ton, for tankers which are capable of sustained speeds of 16, 17 and 18 or more knots per hour. The provision for eligibility under the terms of this section are that no tanker of less than 7,500 tons deadweight, nor of more than 20,000 tons shall receive the bounty.

Every vessel receiving benefits under this provision, which is designed primarily to cover tankers, shall be and remain documented under the laws of the United States for not less than 16 years, and no such vessel shall be eligible for any of the other subsides provided by the law. The law covers all types of merchant vessels.

Neutrality legislation which has been the bone of contention before congress since long before the start of this session, is still in an uncertain state. It appears, however, that the administration backed bill, giving wide discretionary powers to the president as to when he may declare an embargo on war materials, and leaving it entirely to his judgment as to what other export materials shall be restricted to peace-time demands, will be ultimately accepted by both houses.

Railroads Cut Freight Rates on Oil to Meet Pipe Lines and other Carriers

WASHINGTON, D. C., Jan. 21.—Reductions in freight rates to meet other forms of transportation has been announced by several railroads carrying petroleum and petroleum products. All these rates are now in effect.

The new rates were inaugurated, the railroads explained, to meet the competition of either truck, pipe line or water carriers. In one instance it was alleged that unless rates were reduced by the railroads a new pipe line would be constructed which would take all of the oil freight away from the railroads.

Reductions in the rates, under the terms of the applications filed by the roads with the Interstate Commerce Commission, are to remain in effect until further change by the railroads, except in the case of the Staten Island Rapid Transit Co., which states that its rates shall be for only six months.

Several Louisiana railroads, the names of which could not be obtained from the commission, have reduced their rates from 12 to 8.8 cents per 100 pounds from the Rodessa field to Shreveport, Baton Rouge and New Orleans. These rates apply only to crude oil and are identical with the rates charged for shipment out of the East Texas field.

Territory served by the Central Freight Association railroads will benefit by a reduction in tankcar shipments from 17 cents per 100 pounds to 10 cents. The application states that this reduction is asked to permit the railroads to meet the competition of pipe lines and water carriers, but the commission officials say that it is merely to establish an additional route which heretofore has not been covered by freight rate tariffs. The result of the new rates will be that through refined rates may be established from the crude origin point in Michigan to Toledo, Ohio, and from thence to the final point of distribution.

Other railroads not operating under the Central Freight Association, but handling shipments originating in the same area, have also announced reductions. The rates covered by these roads are for westward shipments from Middleton, Carson City and Butternut, Mich., to Butler, South Milwaukee and Milwaukee, Wis. These rates cover crude, fuel oil and gas oil, and are now 17 cents. The old rates were 19 cents from Carson City and Butternut, and 20 cents from Middleton. Incidentally, the railroads expect an increased movement of refined products from this area, which is expected to compensate them for the reduction in rates.

The Staten Island Rapid Transit Co. is extending its reduced freight rates on refined products from Gulfsport to Newburgh, N. Y., Sussex and Newark Heights, N. H., and Montoursville, Vt., for six months. This reduction is solely to meet competition of trucks, which the railroad claimed would have carried off all the business unless the reduced rate had been renewed. The rates are 13½ cents to Newburgh, 14 cents to Sussex, 23 cents to Montoursville and 8 cents to Newark Heights. Whether shippers of fuel oil in the vicinity of Albany, N. Y., will continue to use railroads in preference to trucks at a premium of 1 cent per 100 pounds in the freight rate will soon be determined. The Boston & Maine Railroad has established a rate of 8 cents to meet the competition of the tank trucks, which charge only 7 cents. It is applicable from Albany, Rensselaer and Green Island, N. Y., to North Adams and Pittsfield, Mass.

Those carriers in Louisiana which have reduced their rates asserted that unless they did so there was every likelihood a pipe line would be built to the new Rodessa field which would divert almost the entire traffic from the railroads. Furthermore, the roads asserted that unless this reduction was placed in effect they were faced with the diversion from rail to pipe line shipments of both the crude and refined products to pipe lines in close proximity to the field which could be utilized until the construction of the new line.

A fair competitive basis with East Texas crude and refined products will also result, the roads say, in as much as the reduced rate is identical with that from East Texas and other Louisiana oil fields.

A reduced rate on natural gasoline and liquefied petroleum gas, which the Chicago, Burlington & Quincy Railroad had abandoned, has been reestablished by the road to meet truck competition. The reason for the abandonment of the original tariff was the road was of the opinion that since shippers could ship by truck at lower rates they would abandon the rails, but it has been learned subsequently that the road could ship most of the freight at the reduced rate. The rate in question is the 45-cent rate from Casper, Wyo., to Lewiston, Mont.

All of the foregoing freight rates are now in effect, and will continue in effect until the railroads request the commission to alter them, or until the commission finds that the rates are not established according to law. The commission stressed the point that this is not a general reduction of rates by the railroads, but is merely an attempt by the roads to change apparent discrepancies between their charges and those charged by other modes of transportation. It is expected to result in the railroads holding on to most of the freight affected and perhaps getting more.

★ NAVY TYPE ★

EXTRA HEAVY WATER GAGE

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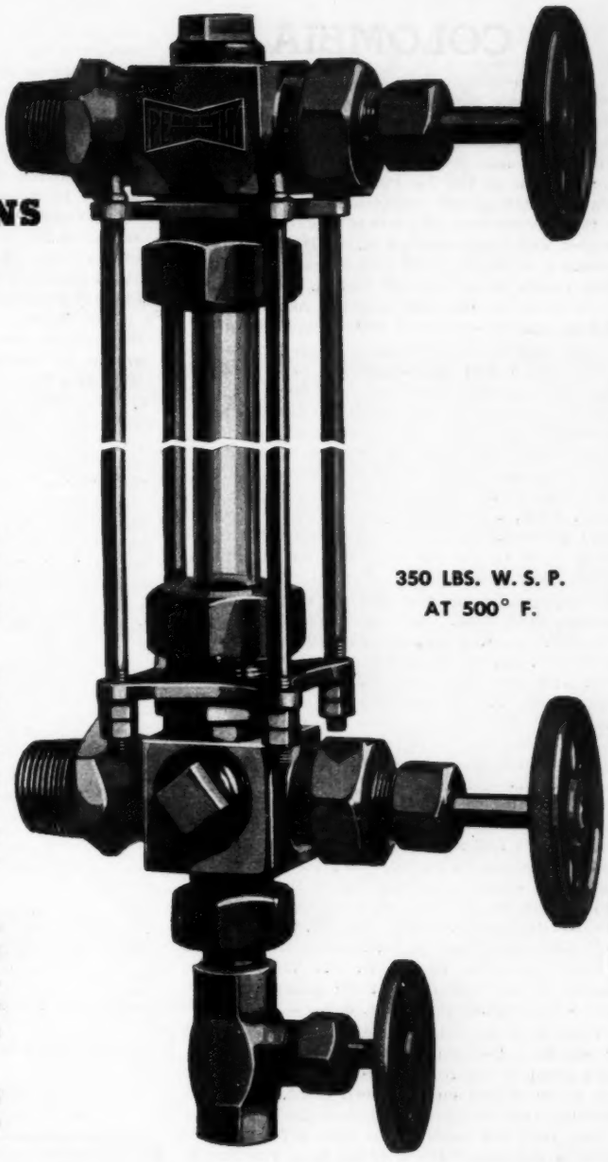

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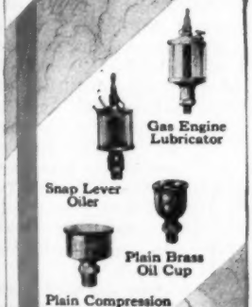

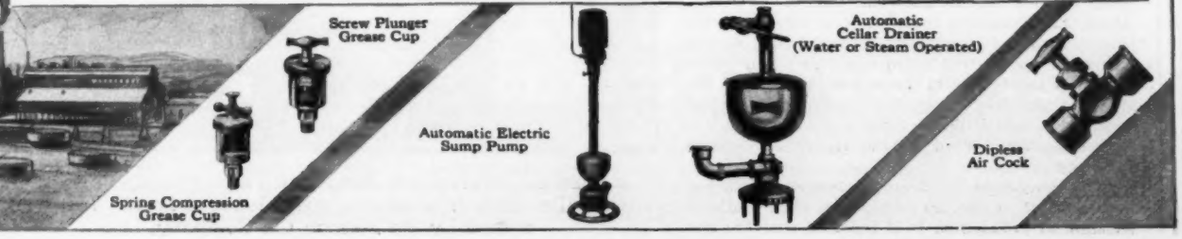
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Oil News from Foreign Lands

COLOMBIA

The Colombian Petroleum Co. (Gulf) which over the past three years has been carrying on development work on a 1,000,000-acre concession in eastern Colombia commonly known as the Barco concession, has completed its No. 9 test on the north dome of the La Petrolea structure in the southern half of the concession. The test is given a rated production of 2,800 bbls. daily and is the largest well yet completed in the Barco. It is producing at a depth of 950 feet. Six and five-eighths inch casing is set at 898 feet in the well. The crude oil as in the case of other completed wells is high gravity averaging better than 40 A.P.I.

The well is located about 2 kilometers north of No. 6 which was also completed as a producing well with a rated production of 1,000 bbls. daily. The No. 9 location is also described as 1,300 meters northeast of the No. 1 Petrolea which was the first test drilled on the Barco by the present owners of the concession. The completion of the No. 9 serves to extend the producing area to the north dome. About 1 mile north of the No. 9, a location has been made for No. 10. A railway connection is being made to the site for the transportation of drilling equipment.

The north dome now has six completed tests showing production. The largest except for the No. 9 is the No. 2 which is located 3,200 meters south of the No. 1 test which was abandoned early in 1933. This first test caught fire after blowing in unexpectedly at a shallow depth. The No. 2 which was completed in May, 1934, was given a rating of 2,500 bbls. at that time. Since that time, the No. 1-A which was drilled 1,150 meters southeast of No. 1 has been completed as a 1,000-bbl. producer. This test was drilled to a depth of 3,007 feet through the sedimentary formations. It was plugged back and at a depth of 886 feet was completed. It has shown a consistent production at that depth. The crude oil production of the completed wells is largely confined to fuel requirements to carry on drilling operations. The No. 8 test located 1 kilometer northwest of No. 2 was completed as a producer from the first zone. The rig has been skidded 100 feet and a test of the second and third zones will be made in the No. 8-A.

Particular interest attaches to the No. 11 test for which a location has been made about 1¼ miles south of the No. 3. The latter test was the first to be drilled on the south dome. Favorable showings were obtained in the test the latter part of last year but inability to shut off water resulted in the abandonment of the test. The No. 11 test will be higher on the structure. The narrow gauge railway system which is being used in the transportation of drilling equipment is being extended to the site of the No. 11.

In the north half of the Barco concession the Rio de Oro No. 2 of the Colombian company is approaching a depth of 5,000 feet. This is the test which started drilling in the spring of 1935 and is the first to be drilled by the Colombian company in that part of the concession. It is located about 12 kilometers from what is known as the Rio de Oro and Rosario field tests drilled several years ago by the Colon Oil Corp. in Colon which is across the border in Venezuela. The No. 1 Rio de Oro test which failed to secure commercial production was drilled several years ago when the concession was owned by the Henry L. Doherty interests.

The Colombian No. 2 test, it is understood, has so far failed to pick up formations which indicate substantial production. It is reported that the test will be drilled to around 6,000 feet where it may encounter the La Petrolea formation now showing production at shallow depths in the southern half of the concession. Preparations are being made to drill a second test about one-fourth mile west of the No. 2.

Due to labor difficulties in the field the crude oil production of the Tropical Oil Co. (International) in Colombia dropped to 1,004,474 bbls. which compares with 1,582,952 bbls. in November and 1,646,293 bbls. in December, 1934. The labor trouble centered around a strike of some of the native employes which has since been settled so January production probably will return to normal.

The decrease of approximately 500,000 bbls. in December reduces the yearly total by that amount so that the 1935 output of crude oil did not exceed 18,000,000 bbls. as was predicted during the fall months. The 17,597,654 bbls. total for the year, however, is slightly greater than in 1934 and much larger than the 13,157,641 bbl. figure for 1933. The large increase in Colombian production started the latter part of 1934 and this increase was maintained over a large part of 1935. However, not counting the low production in December, the 1935 output for the last few months of 1935 was running behind the same period in 1934, leading to conclusion that additional activity will be necessary if the 1935 production is to be maintained or increased in 1936.

The Tropical company's operations account for practically all of the production in Colombia. The Colombian Petroleum Co., subsidiary of the Gulf Oil Corp., has completed several wells on the Barco concession in the eastern part of Venezuela. Production is limited to a few hundred barrels daily due to a lack of marketing facilities.

The following table gives the production of the Tropical company in Colombia for 1935 and 1934:

	1935 (Bbls.)	1934 (Bbls.)
January	1,653,647	1,012,780
February	1,141,696	903,471
March	1,446,821	1,017,147
April	1,377,299	1,193,736
May	1,485,896	1,730,095
June	1,518,460	1,682,691
July	1,639,054	1,646,739
August	1,567,307	1,691,314
September	1,555,676	1,627,632
October	1,623,372	1,646,293
November	1,582,952	1,623,654
December	1,004,474	1,554,724
Total	17,597,654	17,340,724
Daily average	48,213	47,590

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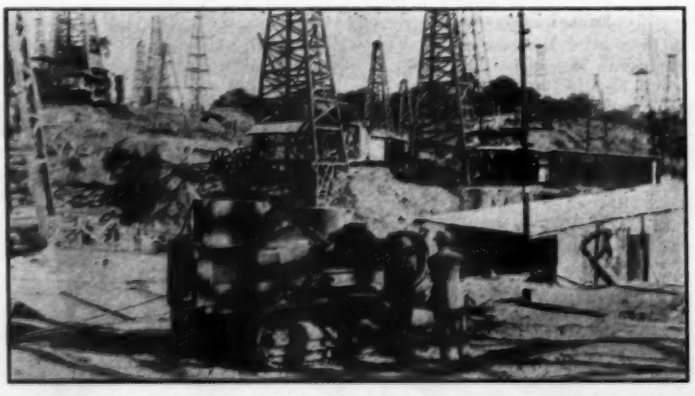

In the midst of this forest of derricks in Yenangyuang oil field, India, a caterpillar tractor, winch-equipped, lends a hand. The outfit is owned by the Burmah Oil Company, Ltd.

PERU

The crude oil production of the International Petroleum Co. Ltd. in Peru in 1935 totaled 14,756,914 bbls., a new yearly peak, according to final figures released during the past week. This is more than 600,000 bbls. greater than the 1934 production and also greater than the 11,205,361 bbl. total for 1933. The larger production was secured despite the fact that only a few new wells were drilled. The gain is largely accounted for by improved operating methods for old wells. Production declined the last two months of 1935 and totaled practically the same as the last two months of 1934.

Total crude oil production for Peru in 1935 will be around 17,000,000 bbls., the remaining production coming from the several hundred wells of the Lobitos Oil Co., Ltd. The following table shows the production of the International Co. in Peru by months for 1935 and 1934:—(bbls.)

	1935	1934
January	1,248,465	1,188,540
February	1,105,508	1,041,451
March	1,218,852	1,056,887
April	1,160,942	1,037,127
May	1,281,189	1,085,191
June	1,240,281	1,187,031
July	1,276,306	1,232,594
August	1,272,038	1,306,353
September	1,275,919	1,259,901
October	1,307,946	1,302,554
November	1,172,124	1,169,836
December	1,197,344	1,250,347
Total (corrected)	14,756,914	14,143,963
Daily average	40,430	38,756

FRANCE

The following table gives the imports of crude oil and refinery into France for the first eleven months of 1935 and 1934:—(tons)

	1935	1934
Crude oil	5,055,124	3,816,466
Gasoline	416,763	876,303
Fuel oil	282,483	257,280
Gas oil	111,661	210,534
Road oil	22,347	49,286
Petroleum coke	22,293	18,041
Kerosene	8,898	36,211
Lubricating oil	97,139	145,266
Misc. oils	5,776	9,777
Total	6,022,464	5,519,110

The bulk of the crude oil now being imported into France to supply the increasing requirements of French refineries comes from Iraq. However, due to the difficulties encountered due to the properties of the crude, shipments decreased in November and shipments of sweet crude from the United States increased.

GERMANY

Gewerkschaft Deutsche Erdol-Raffinerie (Deurag) one of the important refining organizations in Germany is now engaged in installing equipment for the manufacture of lubricating oils at its Misburg refinery. A 1,500-bbl. vacuum distillation unit is being built by the Lummus company, which has charge of the engineering work for other improvements being made at the refinery. This unit will give a series of lubricating oil cuts with an asphalt residuum.

The company is also installing a furfural solvent refining unit for the lubricating oil cuts with contact filtration. Another new unit will provide for acetone-benzol dewaxing. Other new features include facilities for blending and packaging. A new boiler house is being installed.

The Misburg refinery, which is located about 12 miles from Hannover, has a rated capacity of 2,500 bbls.

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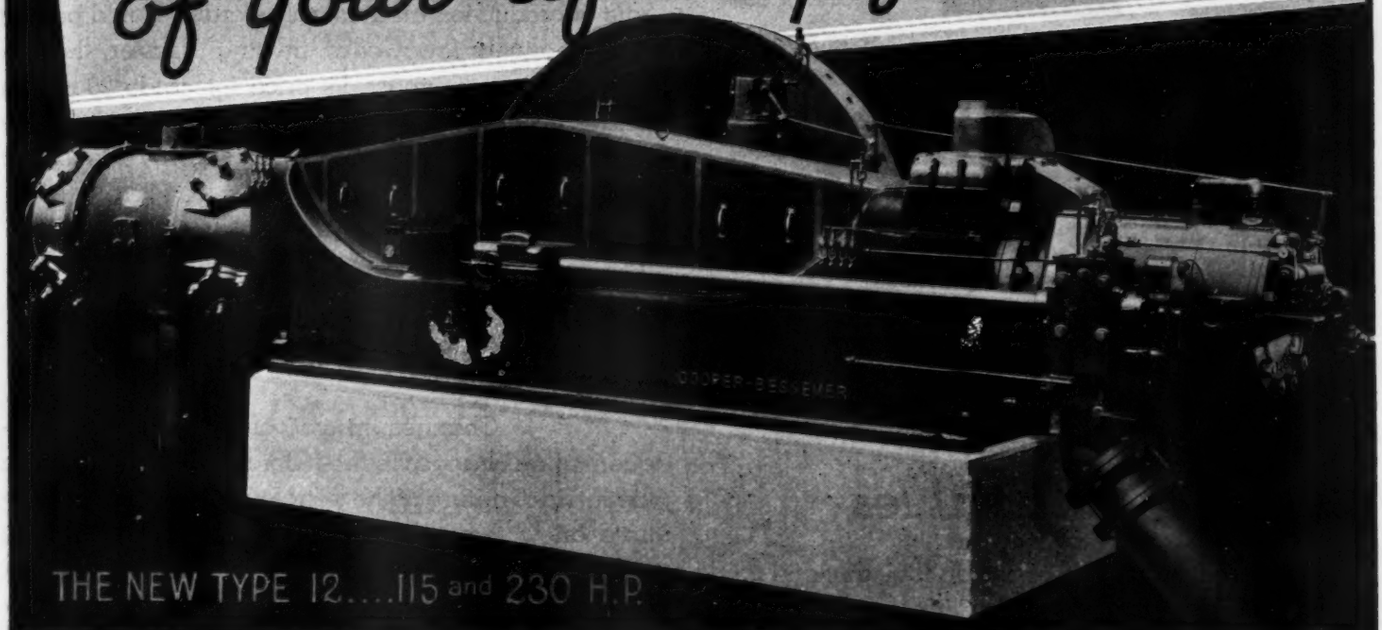

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February Allowables

The forecast of motor fuel demand and required crude oil production for February, announced by the Bureau of Mines, estimates an increase of 88,900 barrels of crude daily over January or 122,000 barrels daily over February a year ago. This is predicated upon an estimated 6.2 per cent increase in demand for motor fuel over February, 1935, and to provide reasonable changes in stocks of crude and gasoline.

Stocks of gasoline on January 31 are expected to be close to 60,230,000 barrels which would require an increase of 4,300,000 barrels in February to reach the economic level recommended of 67,000,000 barrels for March 31. Stocks of crude are recommended reduced 435,000 barrels or 15,000 barrels daily against 25,000 barrels daily during the month of January.

The chief increase in production "allowable" was for Texas, 51,000 barrels daily "primarily because of increased interstate shipments," also recognized by the Texas Railroad Commission order, which placed the East Texas field, not increased, on a flat allowable instead of a potential percentage, while other Texas fields were given an increase long sought.

Satisfactory adjustment is desirable because recent agitation among Texas legislators for increased taxation on oil calls for unity among oil men. The theory that oil should be taxed more because of the price increase absurdly overlooks the fact that the producer is only now getting on his feet after years of depression. If every improvement is to be swallowed in higher taxes how are we ever to get out?

In California the Bureau of Mines recommends a production of 529,000 barrels daily, against a recommendation of 517,000 barrels in January. Actual production last week was 683,350 barrels, causing President Kingsbury of the Standard Oil Company of California to issue a remarkable statement to the producers in that state. Reminding them that a detailed study of the storage situation indicates that at the December rate of production all available storage would be filled in a relatively few weeks, inviting disaster, the company offers to increase its price for crude 20 cents a barrel if production is reduced to the 537,000 barrels daily estimated as an economic limit by the Central Committee of California Producers.

Can this constructive proposal be allowed to fail?

An Integrated Industry

Changes in corporate structure, consequent upon changes in the federal tax laws, emphasize the integral nature of the petroleum industry, and illustrate anew that the various groupings of producers, refiners and so on are members of a single unit.

As often pointed out, no one branch of the oil industry can safely order its operations without regard for conditions in other branches. The latest example was the delay in the crude price advance until the products market could accept it and the realization that the maintenance of both depends upon stabilization in each. What is the concern of one is necessarily of moment to the others. They are all in the same boat.

Occasionally some self-interested elements clamor for disintegration with the notion that they can gain alone while the rest of the industry loses, but experience has shown that is not possible. The producer, the refiner, the pipe line which furnishes plant facilities, are all links in the same chain.

In that respect the corporate change necessitated by the tax law amendments legally classifies each link in the position where it has belonged and disposes of the theory that the petroleum industry can be chopped into separate and antagonistic sections.

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Systematic Program Is Essential in the Proper Application of Repressuring

By CHARLES B. McCLINTOCK
Consulting Geologist and Petroleum Engineer

The advantages to be derived from repressuring oil producing sands partially drained by ordinary pumping operations are discussed in the accompanying article. This is the first of a series of two articles being presented by this author in which he points out the various phases of the work to be conducted with extreme accuracy and also discusses the various pieces of surface equipment necessary.

The first successful attempt of repressuring an oil sand dates back to 1911 when it was demonstrated on an old lease near Marietta, Ohio, that by forcing compressed air into one well, at a pressure of 40 pounds, it was possible to increase the production of the surrounding wells on the lease. Since then repressuring has been applied to many different productive oil horizons where the gas energy has been depleted and the method has met with some success in practically every instance.

Water flooding dates back to 1868 when the effects of flooding at Pithole and in other early fields in Pennsylvania were first noticed and described by Carll.* These floods were caused by lack of effective ways of excluding water and through lack of knowledge of the effects of large quantities of water entering the oil-bearing formations. The results were a rapid and irregular advancement of the water, possibly effecting some wells in the path of the flood and "by-passing" others, inability to foretell or control the movements of the water which resulted in the trapping of isolated pools of oil.

In the Bradford field, water flooding was not started intentionally for the purpose of increasing recovery. Little is known regarding how flooding originated but the general supposition is that the first floods were started by leaky casing or improperly plugged wells. The first effects of flooding were noticed about 1907.

Unlike repressuring, flooding has met with little success when applied as a secondary recovery method with the exception of the Bradford and Richburg pools. These fields still remain the outstanding rejuvenated fields, due to natural and artificial water flooding.

Since the inception of repressuring in 1911 and water flooding in the Bradford field about the same date, much experimenting has been done and many changes in production methods have taken place. The result has been a better control of both methods with a resultant increase in ultimate production.

It is the purpose of this paper to deal with the newer phases of repressuring and flooding as practiced now where intensive development programs are carried on and these newer phases will be discussed here.

After the introduction of repressuring in 1911, as a means of secondary recovery, many of the producers, especially in the Appalachian fields, began to become aware of the fact that much oil still remained under ground after the wells practically ceased producing by pumping them naturally. The use of compressed air, as a repressuring medium to furnish the necessary energy to the producing oil sand, gradually spread and in the majority of cases met with some success. However,, in many instance it did not come up to expectations. Before the application of the method, little thought was given to sand conditions, locations of pressure intake wells, air-inputs and outputs, etc., and in the majority of cases the result was a small increase in production and then a bad "by-passing" or "blowing through" of the air. In nearly all instances old wells were converted into pressure intakes for no particular reason except to get some air in the oil producing sand some place wherever it happened to appeal to the fancy of the producer. New wells were always drilled for producing wells and it was very seldom that a new well was used for a pressure intake.

New Developments

During the past five years especially, many new phases and improvements have been developed in this method of secondary recovery. Chiefly among these are the following:

(a) Coring of wells.
(b) Core analysis.
(c) Packer application.
(d) "Pattern" drilling.
(e) Use of gas and air-gas mixtures.
(f) Measurement of air-gas input and output volumes.
(g) Control of air-gas production.
(h) Electrification of leases.
(i) Unit operations.

(a) The initial procedure in the development of a repressuring project is to core several wells across the property, the number and location of same dependant upon the size and shape of the property. After this work is completed it is possible to determine the best section of the property on which to start the development work.

In the development of the property, all intake or pressure wells are cored. These cores are taken by either cable tool core drilling equipmnt or with the diamond core method. Considerable research work is now in progress and studies are being made as to the effect of the drilling water on the final water and oil saturations in the cores. Dyes and chemicals are used in the drilling water as a means of differentiating between formation and drilling water and their relative percentage present in the core.

(b) Representative samples throughout the core are taken to the laboratory and tested for porosity, saturation, permeability, grain size and occasionally, composition. Accurate methods of determining porosity and permeability have been developed and the various saturation methods now used are being studied and compared.

Figure 1 shows a typical core analysis.

(c) Before the packers are set in the intake wells, the wells are usually tested for pressure and volume. A "pressure-volume" testing string is run which consists of a length of 3-inch pipe equipped on one end with a hook-wall packer and on the other with a full expanding rubber packer. The length of the 3-inch pipe between the two packers is governed by the variation in sand conditions as shown by the core. Generally, from 5 feet to 12 feet of pipe is used. The pipe between the packers is vented. The string is lowered into the hole with the sidewall packer end down, and testing is started at the bottom of the sand. After the hook-wall packer is set, the rubber packer above is expanded to seal the section at the top.

Gas or air-gas mixture is introduced to the portion of the sand between the two packers through the vented pipe. The packers are then raised and another section of the sand tested and so on. By testing different sections of the sand, it is possible to determine the pressure necessary to force a given volume of gas or air-gas into various sections of the sand during a certain period of time and it is of great value in determining packer settings.

Where there are two or more sand bodies present on a property or considerable variation in the physical characteristics of one sand

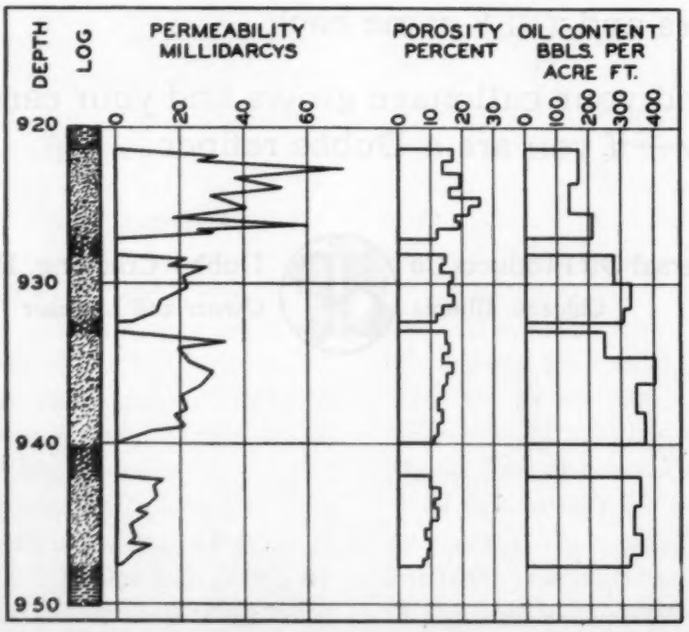


Fig. 1—Typical core analysis showing depth, log, permeability, porosity, oil content of sand under study for repressuring operations

* Carll J. F. The geology of the oil regions of Warren, Venango, Clarion and Butler Counties. Second Geol. Survey of Pennsylvania, vol. 3, 1880 Pp. 256-289.

body, generally from two to five or six packers and several strings of pipe are used. By so doing it is possible to pack off highly permeable sections of the sand, barren streaks, and also different pressures can be applied to the sands or sections of the sand body. The new "full expanding" type of packer is generally used.

(d) Better control of the repressuring medium and increased production have been obtained by the use of pattern drilling. By using this method the wells are laid out in a pattern such as a "four spot," "five spot," or "seven spot." The property is then drilled up according to the pattern and only new wells are used for pressure intake wells. Occasionally, if an old well fits into the pattern, it is cleaned out and shot and used as a producing well.

Figure 2 shows the various types of intensive repressuring patterns.

The wells are usually spaced from 150 to 300 feet pressure wells to producing wells and the pattern developed on a uniform spacing. Due to the greater number of pressure intake wells, which result from this method of development, the same quantity of air or air-gas can be forced into the sand with less pressure, and consequently with a saving in power and frictional losses. Moreover, the repressuring medium is distributed more uniformly over the property, so that all parts of the sand are affected.

(e) Gas is used for the repressuring medium wherever possible. As a rule, there is not sufficient gas volume for building up the required rock pressure and it is generally necessary to purchase gas for a while or increase the volume from another sand or property.

The most common repressuring medium used at the present time is air. This, of course, results in an air-gas mixture which is tested periodically for percentage air content and is not permitted to exceed 75 per cent.

Exhaust gases are used occasionaly but generally cause considerable damage due to the corrosive compounds present in the gases.

(f) Each pressure intake well is equipped above ground with a check valve and an orifice flange plate for gas measuring purposes. The gas injection volumes are usually measured with indicating "U" gauges installed over the flanges. Recording orifice meters are sometimes used as well. The gas or air-gas mixture is started at a pressure that just permits its entry to the sand and slowly increased with a constant check being kept on the input volumes as compared with the production of oil for the area which the pressure well is designed to serve. The average input ratio, that is

$$\frac{\text{Gas injected to unit area or pattern}}{\text{Oil produced from unit area or pattern}}$$

in most cases, on successful properties, is between 3,000 to 6,000 cubic feet. In some instance, an injection volume of from 1,000 to 2,000 cubic feet of gas or air-gas mixture, per foot of sand, per day gives very satisfactory results. Where air and gas are both used as the repressuring medium air is generally injected into the sand during the day and at night the plant is "switched over" to gas and gas is then used in place of air.

The producing wells are also equipped with orifice flanges and periodic tests of the flow of gas from these wells are made in order to determine the oil-gas ratio:

$$\frac{\text{Gas production from well}}{\text{Oil production from well}}$$

and fluid-gas ratio which includes the water and oil in volume in proportion to the gas. By keeping a check on the above two gas-oil ratios it is possible to note the gas movements in the sand and then anticipate possible channeling or short circuiting of the gas before such conditions can gain much headway.

(g) The methods employed in controlling the air-gas productions are applied to either the producing wells or intake wells.

At the producing wells the air-gas production is controlled by raising the tubing, raising the working barrel in the tubing with a bleeder placed at the desired fluid level, thereby decreasing the differential pressures at the producing wells by raising the producing pressure on the wells showing signs of channeling.

The gas or air-gas production may be controlled at the intake wells by decreasing the input volume. Best results are now being accomplished by altering the pumping schedule and controlling intake wells.

Figure 3—Graph showing Yearly Oil Production, Ratio-Gas injected cubic feet to oil produced—bbls. and Estimated Natural Production.

(h) Because of the scarcity of gas on most properties where repressuring is being used, the gas engine is gradually being replaced by the diesel engine. The diesel engine is generally the two cycle convertible oil or gas type engine.

At the start of repressuring operations, all gas is used for injection purposes and the engine is operated as a diesel using fuel oil. Observations have shown that even though a lease produces but little gas, under a repressuring program, gas production will increase considerably. After sufficient increase in gas production has been obtained, the engine is then converted to "gas."

During the past year, the trend has been toward the electrification of leases. Combination compressor and electrical generating plants are being installed, the diesel engine furnishing the power for both operations. Electric power thus generated is used for pumping powers and electric motors replace all gas engines, thereby conserving all the available gas for repressuring purposes.

(i) Many producers in certain fields are favoring the unit operation of a group of properties. This is especially so where properties in one particular oil pool are owned by several parties. By the proper cooperation, repressuring can be applied to the pool as a whole, expenses considerably reduced and the pool consolidated into an efficient recovery unit.

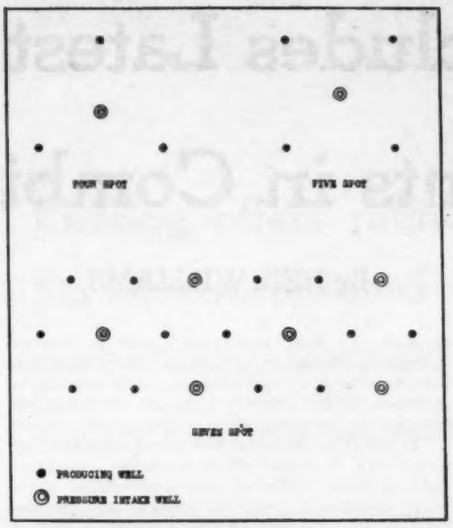
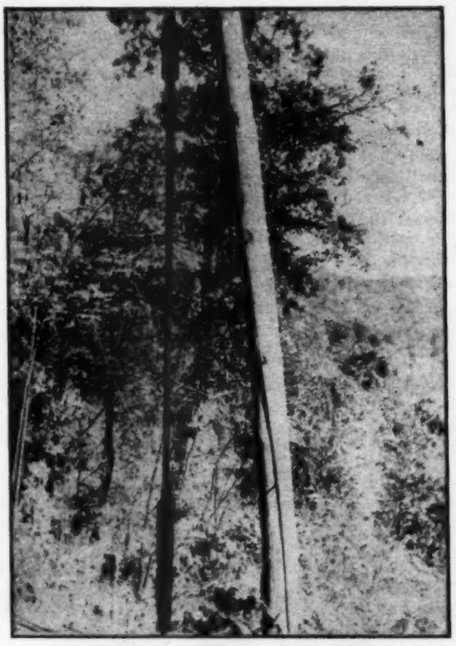


Fig. 2—Types of repressuring patterns



Pressure-volume sand tester

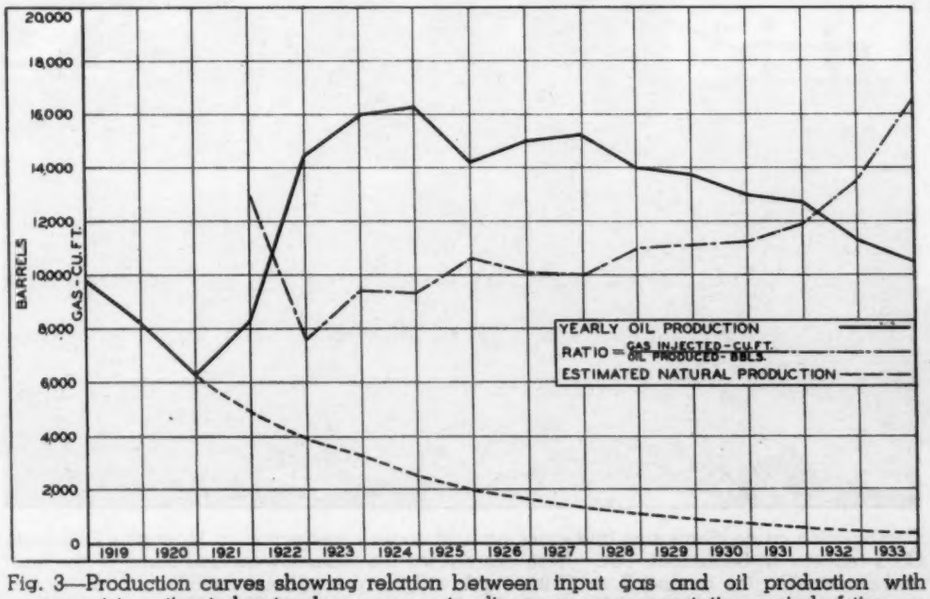


Fig. 3—Production curves showing relation between input gas and oil production with respect to estimated natural recovery extending over a representative period of time

Richie, Bennett and Halloway Head Kansas A.P.I. Group

A. S. Richie, president of the McPherson Drilling Co., was elected chairman, and Van D. Bennett, assistant general production superintendent for the Derby Oil Co., first vice chairman of the Kansas chapter of the Production Division of the American Petroleum Institute. G. A. Holloway of the Lee C. Moore Co. has been named second vice chairman. These men will serve throughout this year and as an advisory board the following will help to carry on the unusually active work of this chapter:

H. K. Phipps, White Eagle Oil Co.; H. M. Williams, Kansas production superintendent, Marathon Oil Co.; T. J. Hamilton, Kansas production superintendent, Phillips Oil Co.; E. B. Pyle, independent producer; E. B. Shawver, independent producer; L. W. McLeod, Westinghouse Electric Co.; Dewey Jordan, Atlantic Oil Co.; and C. S. Warren, Kansas superintendent, Empire Oil & Gas Co.

Magnolia Includes Latest Engineering Developments in Combination Unit

By NEIL WILLIAMS

Within the next 45 days, Magnolia Petroleum Co. will complete construction of its new combination crude distillation and cracking plant at its Beaumont, Tex., refinery. The plant, work on which was started last August, is expected to be on full stream by March 1. Work is progressing satisfactorily. The main units, including towers and furnaces, already have been set up, and connecting up of lines, installation of pump houses and control equipment is the principal work left to be completed.

The plant, which will have a capacity of 32,000 bbls. daily, will be the largest of its type ever constructed. At the same time, although in general principles of operation it will be similar to other combination units, it will embody a number of departures in processing and possess several operating and construction features not included in other installations.

Construction of the unit is in keeping with Magnolia Petroleum Co.'s policy of providing the latest and most efficient refining equipment and methods. The combination process, in which various phases of crude distillation, viscosity breaking and cracking are combined into a unitary and continuous operation, has been one of the more important refining developments of recent years. This type plant is such that large capacity is obtained at relatively low investment and operating cost per barrel. It is especially applicable to large refineries, such as at Beaumont, where the crude handled is of such volume that a sufficient quantity of raw material of more or less uniform characteristics and quality can be allocated to one particular operation, or, in the case of small plants, the entire crude supply is of the same general specifications.

The essential difference in the processing which will be undertaken in the Magnolia installation will be that a deeper cut will be taken in the crude charged in the first phase of distillation than usually is done. It has been the practice in most other installations of the kind to charge the crude direct from the heat exchangers into the crude, or stripper, tower. Only the lighter fractions, consisting of a straight-run light naphtha taken overhead, and heavy naphtha cuts, or possibly kerosene, taken off the side, are obtained in this first distillation. In the Magnolia operation, the crude, after passing through the heat exchangers, will be charged through a preheater coil, where the temperature will be raised to approximately 650 degrees, or sufficient for the removal of the gas oil and lighter fractions in the crude tower fractionation process.

As designed, the crude tower will take four different cuts. Overhead will be taken the straightrun light naphtha, while off the side will be cut a heavy naphtha, a range oil, and gas oil. The side cuts will pass through a stripper, after which they, together with the overhead light naphtha, will be finished products, except possibly for sweetening. The stripper is designed such that very little open steam will be required in this operation.

By this distillation, the reduced crude residuum, which will be taken off the bottom of the tower and delivered to the evaporator, and thence through the viscosity breaking and cracking cycles, will not contain any gas oil ends which ordinarily would be the case if only the lighter fractions were distilled off in the crude tower.

The crude coil is a part of the same furnace in which the gas oil, or main cracking coil is built. In operation of the Magnolia installation no reforming will be undertaken so the coil takes the place of the one which ordinarily would be used in reforming operations. Thus, the combination furnace in this case is designated as the crude-gas oil furnace.

This furnace is 78 feet long, 44 feet wide, and 18 feet high. It has a double combustion and radiant section heater with a common convection bank of tubes between the two combustion zones. In the gas oil, or main cracking oil at one side there is 6,960 lineal feet of tubes, while on the crude preheater side there is 4,400 feet of tubes. The total furnace duty will be 210,000,000 b.t.u. per hour.

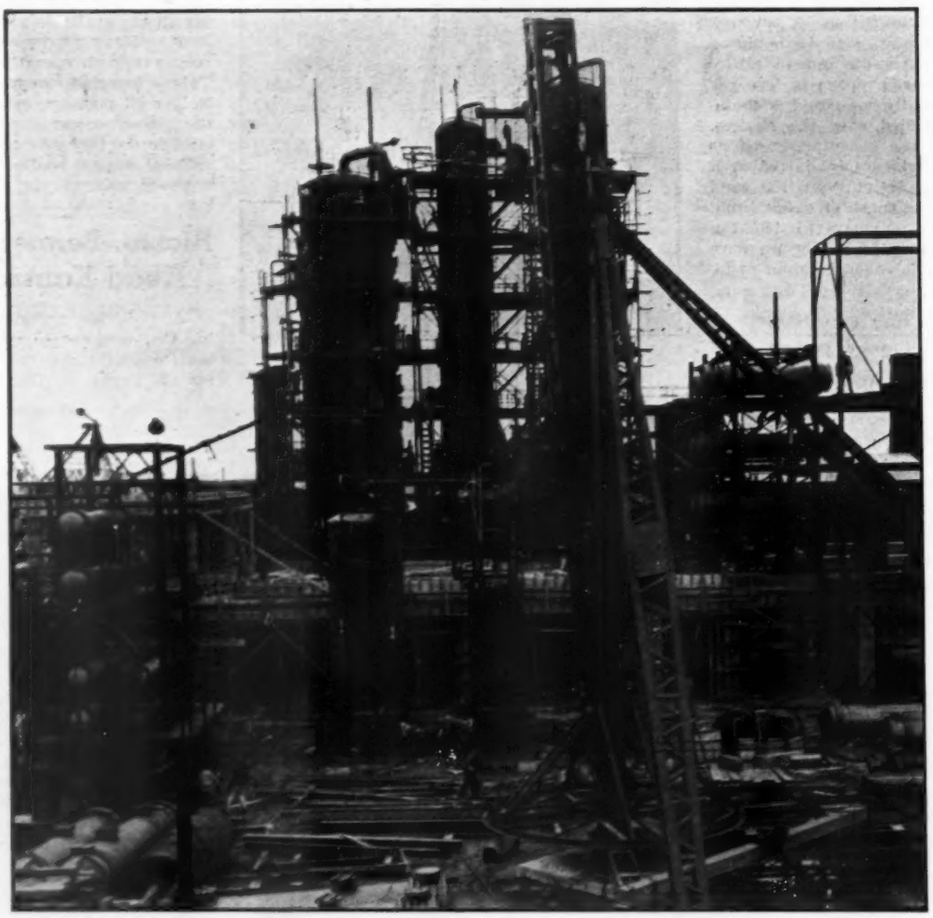
In the viscosity breaker furnace, which is entirely separate, there is 8,600 lineal feet of tubes. The furnace is 58 feet long, 44 feet wide, and 23 feet high. It is of suspended wall construction on steel frames, having an arched roof. The total duty of this furnace will be 140,000,000 B.t.u. per hour.

Of particular interest in connection with the construction of the towers is the fact that these, despite their sizes and weight, were received at the Magnolia refinery as complete units. Each was assembled and welded at the Jersey City plant of M. W. Kellogg Co., which company designed and is building the combination unit, and was shipped by boat to the Magnolia docks at Beaumont. The three main towers include the crude tower, a high-pressure fractionator, and a combination evaporator and bubble tower, which fractionates the viscosity breaker furnace discharge. The crude tower, which is 63 feet high and 16 feet in diameter, weighs 150 tons. For shipment, it had to be welded to the deck of the ship so that with the roll of the ship the heavy cylinder would not shift and capsize the ship. Torches were used to cut the tower free from the deck for unloading. As it was a completed unit, only five days were required in setting the tower up after its receipt at the plant site. Unloading and transporting it to the site took two days.

The high-pressure fractionator is 76 feet 6 inches high and 9 feet in diameter, while the viscosity breaker evaporator-bubble tower is 79 feet 6 inches high and 12 feet in diameter. It was not necessary, however, to weld either of these to the decks of the ships. Instead they were securely fastened otherwise.

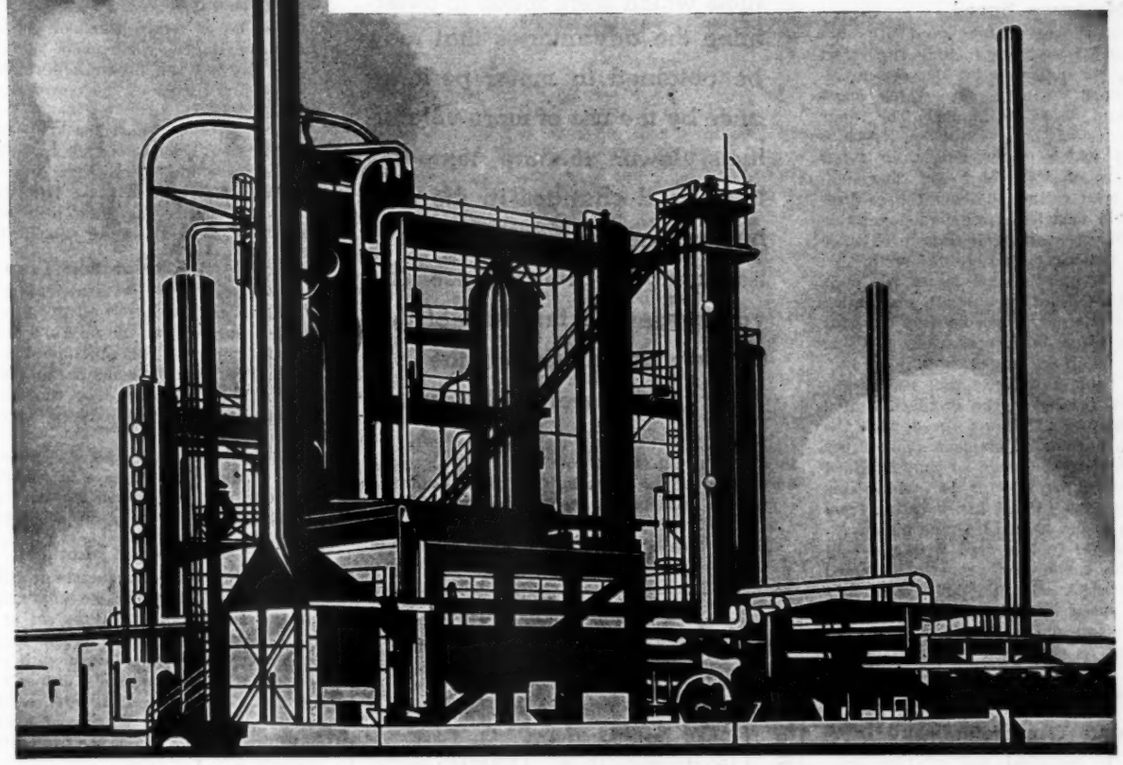
Also of interest in the new plant will be the hot oil circulating hook-up. Each furnace is being supplied

(Continued on Page 32)



Combination crude distillation and cracking unit under construction at Magnolia Petroleum Co.'s refinery at Beaumont, Tex. Here are shown the main towers and some of the heat exchangers. On the ground floor to the right will be pump house, while on the second floor will be the control room. The unit will skim and crack 32,000 bbls. of crude daily

Kellogg offers refiners the benefits of coordinated research and operating experience in the manufacture of lubricating oils.



● As licensing and construction agent for several processes for the manufacture of lubricating oils, this organization has the benefit of the research and engineering experience of various refiners.

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Use of Highly Volatile Fuels Improves Motor Operation and Acceleration

By GEORGE GRANGER BROWN
Chemical Engineering Dept., University of Michigan

Here are given some of the data and results of actual road tests made on a 1934 model Master Chevrolet to determine the effect of volatility and mixture temperature on engine performance. The details of the test runs and a complete description of the method involved were given in the preceding issue.

In the concluding half of his article Doctor Brown discusses the results of volatility tests on motor fuels which were made to determine the advantages that may be obtained in motor performance by the use of more volatile fuels, lower mixture temperatures, and changes in the carburetor and other equipment necessary to utilize these advantages. The first half of this article was published in the January 17 issue of the Journal.

Maximum Speed

The results of the maximum speed tests are given in Table 4. These tests include the effect of spark setting as indicated by the octane selector. The standard setting is zero which corresponds to a fuel of 65 octane number. The range covered in these tests is from 4 advance (A4) to 10 retard (R10) which corresponds to a range in octane numbers of from 74 to 30. The relative power has been estimated from the calibration curve of this model car as made available by the manufacturer as shown in Figure 5. Since this curve was not actually obtained with this car under test, the relative maximum power is an estimate rather than an actual determination, which is reliable only when used as a means of comparing the effect of octane selector setting with changes in manifold temperature.

The data of Table 4 indicate that use of the unheated manifold instead of the standard heated manifold increases the maximum speed with the same fuel and carburetor adjustment about 2 per cent, or approximately the same as that obtained by advancing the octane selector 14° which corresponds to an increase in fuel knock rating from 30 to 74, or from about 40 to 78 octane number.

If a more volatile fuel is used with the cold manifold and the carburetor properly adjusted (compare 1E with 3A with the cold manifold) the gain in top speed is still greater, about 2½ per cent, and the mileage at top speed improved about 10 per cent as compared with the use of the less volatile fuel with the standard factory equipment and adjustment.

Mixture Temperature

The data as to manifold and mixture temperatures were calculated as degrees rise above atmospheric temperature, averaged and plotted as a function of speed in Figure 6. Although the rise in temperature of the intake ports above atmospheric temperature is slightly more in cold weather than in warm weather, the difference in this series of tests was negligible as compared with differences observed on different days with varying wind conditions. The temperature of the air into the carburetor averages about 15° to 20° F. lower with the special unheated manifold than with the standard heated manifold, due in a large measure to the fact that the hood was left off during the tests with the unheated manifold.

The mixture out of the carburetor is approximately the same number of degrees below the air entering the carburetor whether the manifold is heated or not. This is to be expected as the drop in temperature as the air passes through the carburetor is due almost entirely to the quantity of fuel vaporized therein. The different temperatures for the mixture out of the carburetor obtained with the three different fuels tested depend largely upon the volatility of the fuel. A drop in temperature of 45° to 50° F. indicates that the fuel is substantially completely vaporized in the carburetor when a mixture of normal proportions is being used. A larger drop in temperature is found when a richer mixture is supplied, as is indicated from about 75 to 80 miles per hour under which conditions the carburetor is supplying an enriched mixture due to the step on the end of the metering pin coming into operation over this speed range when the throttle is almost fully open.

The increase in temperature of the mixture between the outlet of the carburetor and the intake ports in the cylinder block is approximately 30° greater with the heated manifold than with the unheated manifold. When using the heated manifold the average temperature of the mixture entering the ports of the cylinder block is about 50° F. higher than when using the unheated manifold.

The lower temperature of the mixture entering the cylinders when using the unheated manifold increases the pressure developed by the explosion and increases the power developed by the engine.*

The further gain caused by the use of the volatile fuel 1 as compared to fuel 3 (Table 4) may be accounted for by the lower mixture temperature entering the intake port when using fuel 1, and by better distribution in the cold manifold when using the more volatile fuel.

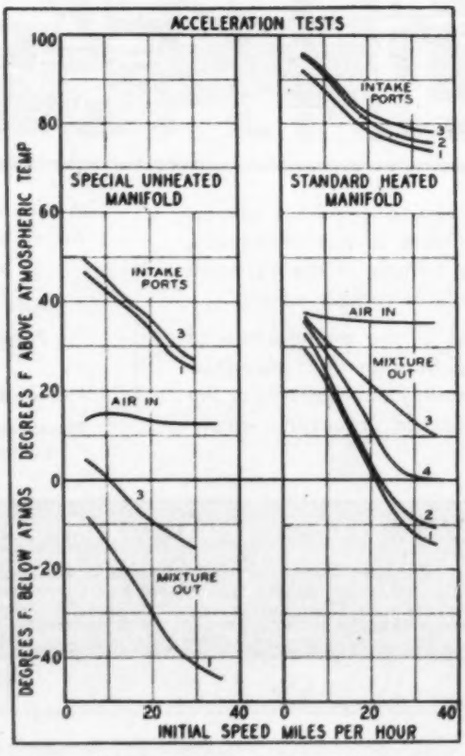

Fig. 7—Mixture temperatures as determined during acceleration tests using the heated and unheated types of motor manifolds

Acceleration Tests

The mixture temperatures as determined during the acceleration tests are plotted in Figure 7 in the same way as the mixture temperatures obtained during the constant speed tests were plotted in Figure 6. In general the temperatures are substantially the same for the same speed and test conditions in the acceleration tests as in the constant speed tests.

The average accelerations in feet per second per second for an increase in velocity of 20 miles per hour with a uniform car load of 520 pounds for different test conditions are given in Table 5.

Heated Manifold

Referring to the tests made at atmospheric temperature of 85° F. using the standard heated manifold with the octane selector set at 0, equivalent to an octane number of 65, it is seen that the same acceleration is obtained with all fuels tested provided the carburetor is properly adjusted for the fuel. The greatest difference in the average acceleration is about 1 per cent between the tests with fuel 1 and 2 on the same carburetor adjustment EN. Considering the difficulty of getting the best carburetor adjustment for each fuel and for each set of operating conditions these results are practically identical.

At an atmospheric temperature of 50° F. somewhat richer carburetor adjustments are required for the best acceleration and an increase in the accelerating charge appeared to give better results. The average accelerations obtained at 50° F. are slightly better than those obtained at 85° F., but again are practically identical for all fuels when used with the proper carburetor adjustment.

At an atmospheric temperature of 40° F. it was impossible to maintain the same standard of acceleration using fuel 3 under these conditions. The results were 15 per cent below those obtained with the same fuel and carburetor adjustment at 50° F. or with the more volatile fuel at 40° F.

The test data obtained with the standard heated manifold at an atmospheric temperature of 20° F. were taken with the octane selector retarded two points from the zero setting, or equivalent to a fuel of 61 octane number. This retarded setting of the octane selector makes a difference in the acceleration of less than 2 per cent as indicated in Table 7. Under these conditions the standard factory adjustment A1 with fuel 2 gave the same high standard of acceleration as was obtained at the higher atmospheric temperature.

The results obtained with fuel 3 with the stand-

*G. G. Brown, Engineering Research Bulletin No. 7, page 92 and 94, May 1927.

ard carburetor adjustment, AI, are very inferior indicating a loss of over 30 per cent in the average acceleration. This performance is somewhat improved by increasing the accelerating charge to the longest possible stroke on the accelerating pump, adjustment AL. In this case the loss in average acceleration was about 20 per cent as compared with the same standard. The numbers indicated in parenthesis in Table V following the accelerations recorded for fuel 3, adjustment AL, are the average number of backfires observed in each acceleration test and indicate the unsatisfactory performance obtained with this fuel at low atmospheric temperatures even, when the car is thermostatically controlled as to water-jacket temperature, and manifold heat, and with the carburetor adjusted for the maximum accelerating charge.

Using the standard factory adjustment AI and the most volatile fuel 1, under the same temperature and manifold condition, the acceleration was found to be 6 per cent better than that obtained at higher atmospheric temperatures, or when using fuel 2 at the same carburetor adjustment and atmospheric conditions.

When the accelerations obtained at 20° F. with the octane selector at 2° retarded, are corrected to the zero setting on the octane selector by means of the relationship given in Table 7 as has been indicated in Table 5, it is seen that the acceleration obtained with fuel 2 with the standard adjustment AI is equal to the best that can be obtained at any higher temperature and that the acceleration obtained with fuel 1 is approximately 7 per cent better.

Unheated Manifold

Using the special unheated manifold at an atmospheric temperature of 60° F. and with the octane selector set at 2° retard, it was found that the acceleration obtained with fuel 1 was increased an additional 3 per cent. This further improvement is due in part to the lower manifold temperature which was about 98° F. under these conditions as compared with about 105° F. with the heated manifold and an atmospheric temperature of 20° F., and probably in part to the lower cylinder jacket temperature effected by removal of the thermostatic control of the cooling water.

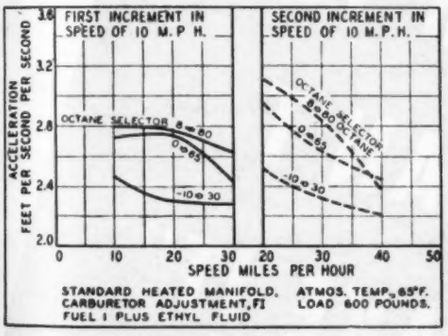
FIRST INCREMENT IN SPEED OF 10 M.P.H.
SECOND INCREMENT IN SPEED OF 10 M.P.H.
ACCELERATION FEET PER SECOND PER SECOND
OCTANE SELECTOR 8 @ 80
0 @ 65
-10 @ 30
OCTANE SELECTOR OCTANE
SPEED MILES PER HOUR
STANDARD HEATED MANIFOLD, CARBURETOR ADJUSTMENT, FI FUEL 1 PLUS ETHYL FLUID
ATMOS. TEMP. 65°F. LOAD 600 POUNDS.

Fig. 8—Plot of acceleration data showing effect of octane number of the gasoline used on acceleration

Operating in this way with a low mixture temperature and low engine block temperature it was found that the octane selector could be advanced about 2° when using a fuel of the same octane number. An advance in the octane selector of 2° gives a further gain in average acceleration of a little over 1 per cent, which should also be credited to the improvement obtainable when operating with low mixture and engine temperatures.

The accelerations and number of backfires obtained with fuel 3 with the standard factory carburetor adjustment A1 and with the maximum accelerating stroke, AL, but with the octane selector set at 2° advance equivalent to a fuel of 69 octane number, indicate the unsatisfactory performance obtained with this fuel under these conditions, due to the inadequate volatility of such a fuel to insure reasonably satisfactory distribution in an unheated manifold.

TABLE 6—EFFECT OF OCTANE NUMBER ON AVERAGE ACCELERATION

Average acceleration in feet per second per second for an increase in velocity of 20 miles per hour.

Car load 600 pounds.
Standard heated manifold.
Atmospheric temperature 65° F.
Fuel 1 plus ethyl fluid.
Carburetor adjustment FI.
68-58-53 rod intermediate stroke.

Octane selector	R 10	0	A 8
Corresponding octane number.	28	65	80
Initial speed miles per hour			
5	2.495	2.845	2.955
15	2.305	2.69	2.805
25	2.24	2.495	2.505
Average	2.347	2.68	2.755
Relative acceleration	0.875	1.00	1.03

TABLE 7—EFFECT OF OCTANE SELECTOR POSITION ON REQUIRED OCTANE NUMBER AND RELATIVE PERFORMANCE

Octane selector	Octane number	Average acceleration	Top speed	H.P. at top speed	Average mileage
A 8	80	1.03	1.007	1.022	1.014
A 6	78	1.026	1.006	1.019	1.012
A 4	74	1.02	1.0045	1.0165	1.010
A 2	70	1.012	1.0025	1.008	1.006
0	65-66	1.00	1.000	1.000	1.000
R 2	61	0.985	0.9975	0.992	0.992
R 4	57	0.965	0.995	0.9835	0.982
R 6	51	0.94	0.992	0.973	0.970
R 8	43	0.91	0.9885	0.960	0.956
R 10	28-30	0.875	0.984	0.945	0.940

Effect of Octane Number

Figure 8 is a plot of the acceleration data which is averaged and so reported in Table 6. These data were taken for the purpose of determining the effect of the setting of the octane selector, or octane number of the gasoline used, on acceleration. The tests were run in the same manner as those reported in Table 5 but over a different section of road, and with a greater load in the car so that the results given in Table 6 should not be compared directly with the results in Table 5.

In Figure 8 the acceleration obtained over the speed interval of 5 to 15 miles per hour is plotted as a point at 10 miles per hour, and that obtained over the speed range of 15 to 25 miles per hour is plotted as a point at 20 miles per hour. The first increment in speed of 10 miles per hour is plotted at the left of the figure and represents the acceleration obtainable when starting with the initial speeds of 5, 15, or 25 miles per hour, while the second increment in speed of 10 miles per hour is plotted at the right hand side of the figure and indicate the acceleration obtained over the speed interval of 15 to 25 miles per hour when starting with an initial speed of 5, and that obtained over the speed interval of 25 to 35 miles per hour when starting with an initial speed of 15 miles per hour, and over the interval 35 to 45 when starting with an initial speed of 25 miles per hour. These data are of interest in indicating variations in the acceleration at different speeds with different adjustments, but are confusing in any attempt to determine the relative acceleration obtained with different fuels or with different octane selector settings. For this reason such data have not been used in comparing results under different test conditions, but rather the average acceleration obtained by averaging the accelerations for the first and second speed increments and recording the average so obtained as a function of the initial speed as has been done in Table 5 and Table 6.

Figure 9 shows the mileage obtained with the standard heated manifold and standard factory adjustment using fuel 4 at an atmospheric temperature of 95°F., but with three different settings of the octane selector corresponding to fuels of 30, 65 and 80 octane number. The average mileage was obtained from these curves in the same manner as that reported in Table 3 from the data plotted in Figure 3. The relative average mileage so obtained using that mileage obtained with the octane selector at zero as unity is given in Table 7. Table 7 also gives the relative top speed based on the data of Table 4, and the relative acceleration based on the data of Table 6 obtainable from different settings of the octane selector corresponding to the use of fuels of different octane numbers as indicated.

Comparison With Earlier Work

Comparing the average acceleration when using the best adjustments with fuels 1 and 4 at atmospheric temperature of 85° F. and 50° F. (2.82 feet per second per second), with that obtained with the best adjustment ES using fuel 1 with the unheated manifold, (3.105, and 3.15, according as the octane selector is set at zero, or +2), the gain in acceleration for the same octane selector setting is 10.5 per cent, and when the octane selector is advanced two units as is permitted by the use of the unheated manifold and cold water jacket temperature the gain in acceleration is 11.7 per cent.

This latter figure checks very closely that obtained by MacCoull on the C.F.R. single cylinder variable compression engine. MacCoull measured the mixture temperature in the manifold near the carburetor which corresponds more closely to the temperature of the mixture out of the carburetor as given in Figures 6 and 7 than the mixture at the intake ports. The temperature out of the carburetor when using fuel 1 with the unheated manifold was about 43° F. lower than when using fuel 4 in the heated manifold. For a 43° F. drop in mixture temperature as recorded by him, MacCoull found a gain in maximum power of 18.7 per cent when full advantage was taken of the increase in compression ratio made possible both by the lower temperature and by the increased octane number of the more volatile fuel used. The increased power obtained by increasing the compression ratio at constant mixture temperature to utilize the increased octane number of the more volatile fuel was found to be 7.2 per cent. The difference of 11.5 per cent represents the gain in power output obtainable by a decrease in mixture temperature comparable to that in the present road test and when using a correspondingly more vola-

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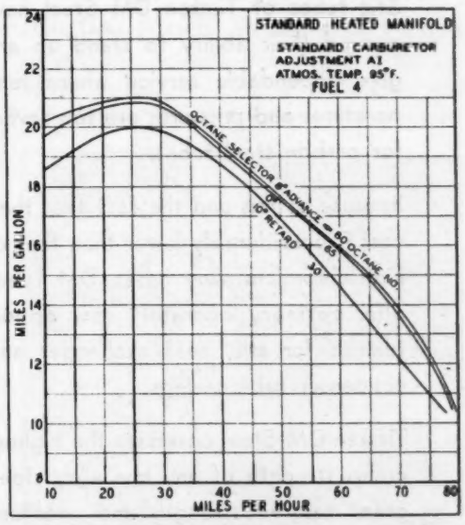

Fig. 9—Mileage obtained using the standard heated manifold and standard factory adjustment with fuel 4 at 95 degrees F.

TABLE 8—PERCENTAGE GAIN IN PERFORMANCE

Performance factor—	Gain due to decrease in mixture temperature 50°F. and use of more volatile fuel of same octane number: Constant spark	Gain due to decrease in mixture temperature 50°F. and use of more volatile fuel of same octane number: Spark readjusted for maximum power without knocking	Constant mixture temperature, spark advanced to correspond to an increase in octane number: From 43 octane to 65 octane number	Constant mixture temperature, spark advanced to correspond to an increase in octane number: From 43 to 74 octane number
Acceleration	10.1%	11.7%	9.9%	12.0%
Top speed	2.35%	2.6%	1.3%	1.8%
Mileage per lb. at top speed	13.6%	14.1%	5.3%	5.3%
Mileage per gallon at top speed	7.0%	7.5%	5.3%	5.3%
Mileage per lb. of fuel at constant speed on level highway, part throttle	about 1%	about 2%	4.2%	4.9%

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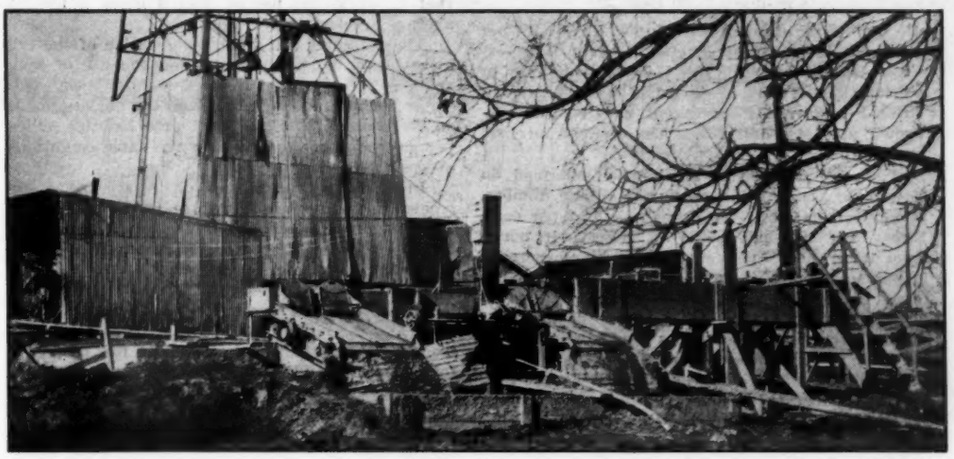
OPERATING IDEAS

Pull Rod Carrier at Crossing

To provide suitable carriers for a pull-rod line at a creek crossing the operators of the lease shown in the picture constructed four A-frames of 2-inch pipe and by tieing the tops of these frames together and securely guying the two end frames a means was provided to support the pull rods. Short hooks were made of junk sucker rods and these were fastened to the wire line connecting the top of the A-frames. Into these hooks longer sections of sucker rods were hung by an eye in one end of the rods.



Vibrating Screen for Removing Cuttings From Mud

On drilling locations where space is limited and large slush pits and mud ditches cannot be dug, it is good practice to use vibrating screens to remove cuttings from the mud. Such an installation is shown in the accompanying picture. It will be noted the mud ditch is made out of lumber and conveys the mud returns to a position above the screens and this ditch is provided with two gates either or both of which can be opened to admit the returns to the screens. The mud after passing through the screen is returned to a small pit below the slush pumps and the cuttings shoveled out of the way from the discharge end of the screens.

Dog House on Truck to Provide Shelter for Operator

In an effort to provide protection for the operator from the cold winds a pulling-unit contractor in the Oklahoma City field devised and built the small enclosure shown on the truck. These units are used to pull rods and tubing from the wells in that field and the work of the operator, while strenuous to an extent, prohibits his moving about and consequently on a cold day is very disagreeable, and since the driver of the unit has full responsibility of the pulling operations and truck the contractor felt that the efficiency of the work would be increased by providing as warm a place as possible for the driver to work. The small house is inexpensive and is quickly demountable from the truck.

Muffler Made From Used Pipe

In an effort to reduce the noise of the exhaust, one oil company has designed and installed the muffler shown in the accompanying picture. The muffler has proven to be very effective since by varying the size of nipple outlets the muffler is able to care for loads of every capacity. The muffler is constructed from a 10-inch pipe with the ends closed to form a header which is attached to the exhaust line by means of a screw joint welded to the header. After the exhaust gases have been allowed to expand in the header they are released into the air through the smaller pipe welded to the header. The ends of the nipples are pinched to prevent the gases from expanding too rapidly; ends being gradually closed until a minimum amount of noise is produced.

Use of Highly Volatile Fuels Improves Motor Operation

(Continued from Page 29)

tile fuel of the same octane number. The 11.5 per cent gain indicated by MacCoull's data is in excellent agreement with the 11.7 per cent gain in acceleration obtained in the road tests as given in Table 8 and the 11.3 per cent gain reported by Brown and Marshall for a decrease in mixture temperature of 50° F.

The gain in average acceleration obtained on these road tests by increasing the octane number, 27 units, from 43 to 70, Table 7, is 11.2 per cent. Brown and Marshall found an increase in maximum power of 11.2 per cent possible by an increase in octane number of 21 units from 55 to 76 obtained by adding lead tetraethyl to a base fuel when tested in a C. F. R. variable compression engine. Averaging these results would indicate that the gain in acceleration obtainable by an increase of 25 octane numbers can be equalled by decreasing the temperature of the mixture as it enters the intake port by about 50° F. and using a correspondingly more volatile fuel of the same octane number.

MacCoull found an increase in power at full throttle of 11.8 per cent in the C.F.R. variable compression motor when the octane number was increased 14 numbers from 58 to 72 by changing the volatility of the gasoline rather than by adding lead tetraethyl. Evidently the increase in volatility itself contributed to part of the increase in power. The results of the road test reported in Table 5 would indicate a possible improvement of about 6 per cent due to the use of a highly volatile fuel of the same octane number.

MacCoull found "that volatility has practically no effect on power, or fuel consumption at wide open throttle when measured by volume, if the compression ratio and mixture temperature are fixed and if the carburetor is reset to give best power." These conclusions are substantiated for standard equipped warm engines by the road test data as indicated in Figures 2, 3, 4 and in Table 4. The increased fuel consumption by volume when using the more volatile fuel was evident only under part throttle condition in warm weather when the fuel consumption seemed to be proportional to the density of the fuel with constant carburetor adjustment and for fuels of the same octane number. At low atmospheric temperatures acceleration is improved by the use of highly volatile fuels, and with unheated manifolds the power and consumption at full throttle is improved by the use of highly volatile fuels.

Summary

Table 8 is presented as a comparison of the improved performance that may be obtained by decreasing the mixture temperature about 50° F. and using fuels of high volatility with that obtainable by the use of fuels of increased octane number of the same volatility and at the same mixture temperature.

The average miles per gallon will vary in about the same manner as the average miles per pound, provided the fuels are of the same density, same octane number, and of similar chemical structure. Usually the more volatile fuel is less dense and may show a decrease in the miles per gallon as compared with the less volatile fuel of the same octane number even when there is an increase in the miles per pound.

When adjusted so as to obtain the same average miles per gallon at constant speed operation, adjustment A for fuel 3, C for fuel 2 (Figure 2) and E for fuel 1 (Figure 4) and using the proper stroke on the accelerating pump to obtain the best possible acceleration for each fuel, the average acceleration obtained; at atmospheric temperatures above 50° F. is identical for all fuels. At 40° F. atmospheric temperature, the average acceleration obtained from fuel 3 is 15 per cent below that obtainable from the more volatile fuels. At 20° F. atmospheric temperature fuel 3 is 20 per cent poorer than fuel 2, and if the factory adjustment is used the average acceleration is 32 per cent below standard when using fuel 3. Fuel 1 on the other hand gives a superior average acceleration at the low atmospheric temperature, registering an improvement at 6½ per cent at an atmospheric temperature of 20° F.

As indicated in Table 8 the improvement with an unheated manifold is 11.7 per cent when using fuel 1, while the use of fuel 3 gives a loss in average acceleration of 8 per cent.

These figures are directly indicative of the relative performance obtained from the use of high volatile fuels in cold motors, as they represent the acceleration obtained when the carburetor is adjusted so as to give the same average miles per gallon on all fuels under the same conditions of operation.

In so far as performance is concerned a decrease in mixture temperature of 50° F., and a corresponding increase in the volatility of the fuel used, is equivalent to an increase in octane number of 25 numbers.

Only simple changes are required in the intake manifold and fuel system in order to take full advantage of more volatile fuels. In fact, current models require high volatile fuels for best performance in cold weather with the standard factory adjustment. Unfortunately some cars are so equipped, with improper fuel systems that they experience vapor-lock, or with such automatic chokes that they flood the carburetor when using the superior volatile fuels. These limitations should be removed from all cars so that the petroleum industry may properly supply the best fuel economically available.

Ernest Hartford Guest Speaker to Tell of Engineers' Needs

The engineers of Tulsa and vicinity have been invited to hear Ernest Hartford discuss the general need for more intimate association between various types of engineers, when he addresses the Engineers Club of Tulsa on Friday evening, January 24. Mr. Hartford, assistant secretary of the American Society of Mechanical Engineers, comes to Tulsa from New York City.

ERNEST HARTFORD

His subject will be the engineering profession's urgent need of a greater coordination of its various interests. He will also illustrate how the lack of a common meeting ground and general association is costly to not only the individual engineer but to the industry and the community.

The recent founding of the Engineers Club of Tulsa makes Mr. Hartford's talk particularly timely. The meeting he will address is the first combined gathering of this new club and the local chapter of the A.S.M.E. but engineers of all interests are cordially invited. The meeting will be held in sections A, B and C of the Tulsa Building.

Magnolia Builds Combination Unit at Beaumont Refinery

(Continued from Page 26)

with both motor driven and steam turbine driven pumps. In normal operation the motor driven pumps will handle 75 per cent of the total circulation, which is their capacity, while the steam turbine driven pumps will handle 25 per cent. The latter, however, have a capacity of 50 per cent of the total circulation through the respective furnaces, and in the event of any electric power failure cutting out the motor driven pumps, the turbine driven pumps automatically will start operating at capacity, maintaining circulation at 50 per cent of capacity, either until the furnaces can be shut down or the electric power restored. This is a safety precaution which has been taken to prevent any unexpected shut down of feed to the furnaces.

Tubular type air heaters, utilizing the hot flue gases from the furnaces, are being provided to preheat the air for the furnace burners. While this is not new, the preheating of air for the burners by utilization of the flue gases will mean an important saving. The chimney for the flue gases is of radial tile construction and is 200 feet high and 13 feet in diameter at the base.

Another feature of the plant will be that there will be no open box condensers. All heaters and condensers will be of the sheltered tube, or enclosed type. An adequate supply of river water from the Neches River, on which the plant is located, eliminates the necessity of construction of a water-cooling tower.

All phases of operation in the plant will be automatically controlled. Practically all instruments, of which there will be a large number for a complicated process such as this, will be centralized in a specially designed control room. The control room will be located on the second floor, above the pump house, and will be strictly fireproof. In the construction of the central room, special attention is being paid to convenience of the operators, and to light and ventilation.

For the erection of the plant, M. W. Kellogg Co. has an extensive outlay of equipment and shops set up at the Magnolia plant. This has facilitated the satisfactory progress of the work. Included in the equipment are three large stiff leg derricks, several small stiff leg derricks for lighter material, and a set of shear legs. A complete concrete mixing plant with a tower and chutes has been provided, as well as a fully equipped welding shop, pipe bending racks and pipe machines, and a carpenter shop. There are more than 35 Lincoln welding machines on the job. In addition there is a diesel driven caterpillar tractor with a bull dozer on the front for various duties, and a caterpillar crane. Pneumatic, balloon tired wheelbarrows provide a novelty, but at the same time have proved advantageous in several ways.

Road Construction Machine Injects Oil Under Surface

An upside-down process of road construction in which asphaltic oil is injected or "planted" several inches under the ground and allowed to "grow" to the surface has been developed by highway engineers with the cooperation of the Missouri highway department, the Low Cost Roads Association reports. In the new process, asphaltic oil, carefully suited to the soil by laboratory experiment, is spread below the surface by a machine. The oil penetrates slowly and evenly to the surface leaving an oil impregnated layer of earth of predetermined thickness. After a short period of curing the road is compacted by rollers and by traffic leaving a water-proof mixture of asphaltic oil and earth. The road will be improved by adding a bituminous wearing surface.

The machine which makes the new process possible consists of a set of hollow steel teeth, about 6 inches long, mounted on a heavy A-shaped frame. As the teeth are drawn through the earth, asphaltic oil is pumped through an opening in the lower end of each tooth. The oil spreads laterally and vertically to a thickness of 5 or 6 inches.

How Would You Go About Equipping Old Properties for Water-flooding?

By R. C. CONINE

Water-flooding in the Pennsylvania areas has proved itself to be both an expensive and profitable undertaking. Recognizing the need for planning, the carrying out of sound engineering practices once the decision is made and the investing of reasonably large amounts of money in equipment during the progress of the work, are essentials emphasized in this article.

Emphasis on engineering features and spectacular initial results marks practically all of the literature on water-flooding in the Bradford and Allegany fields. It might almost be assumed that an oil company operating in those fields has only two problems: "How much oil is there in the sand, and how much is recoverable by various systems." While these are important considerations success of a water-flood development depends upon how well the operator is able to look ahead at least 11 years. When a theoretical development is studied it is not difficult to understand why hundreds of oil property owners in the Bradford and Allegany fields have not adopted

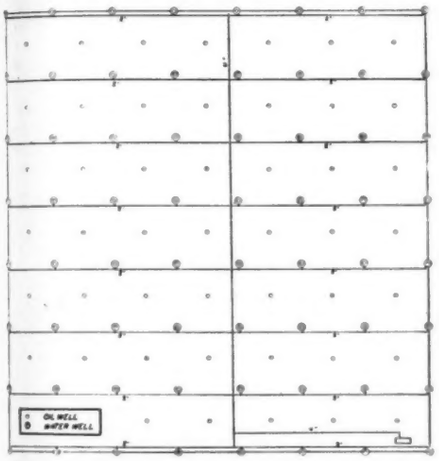


Fig. 1—Development map of 100-acre property showing arrangement of water lines to intake wells in theoretical flooding project

secondary recovery methods. How many of these operators can lay hands on a million or so dollars, and how many of them can steer this huge investment safely through periods of overproduction, low prices, inflation, rising equipment costs, etc.?

It is proposed in this article to outline the principal steps in the development of a 100-acre property in the Bradford field. The first operation is the laying out of the property on a map indicating contours, etc. The water intake and oil wells are located on a spacing arrangement indicated either by previous experience in the same territory or through information obtained from core analyses on corner water wells. Intake wells must go on the corners of the property, so, depending on the size of the property, one, two, three or four core wells may be taken before a layout is made. After the water and oil wells are located, then the water, gas, oil and rod lines are laid out and the total development cost obtained.

The next step is the preparation of the production schedule, and the first and subsequent years' development program may then be worked out. The development program depends on the required production, and the required production is generally such as to carry the company after the first year's development.

Complete Development Cost

Figure 1 represents a development map for a theoretical Bradford property of 100 acres, and includes the arrangement of water lines to intake wells. Figure 2 shows arrangement of power lines. Oil lines are shown in Figure 3 and gas lines in Figure 4. Complete development cost totals $335,767.26 divided as follows:

Sixty-four water wells at $2,236.37 each, $143,127.68; 49 oil wells at $2,736.42 each, $134,084.58; five wells cored at $1,075 each, $5,375; two powers at $6,000 each, $12,000; one water plant, $10,000; one house, $3,000; four 140-bbl. tanks installed at $400 each, $1,600; 16,000 feet of 2-inch gas lines laid at 23 cents a foot, $3,680; 18,000 feet of 2-inch oil lines laid at 23 cents a foot, $4,140; 18,000 feet of water lines, 2-inch, buried at 35 cents a foot, $6,300; 2,200 feet of water lines, 4-inch, buried at 70 cents a foot, $1,540; 32,000 feet of three-quarters inch pull rods installed at 16 cents a foot, $5,120; one tractor, $2,500; one automobile, $600; one 1½-ton truck, $700; warehouse, $1,000; miscellaneous tools and equipment, $1,000.

With an estimated recovery of 4,000 bbls. per acre for this theoretical property development it is presumed here that the total of 400,000 bbls. for the 100 acres will be produced over a period of 11 years. In the first year there will be no production although 34.34 acres are covered by the initial delayed (oil well) drilling. In the second year 40 per cent of the oil from the acreage initially drilled should be recovered and 10.10 additional acres will be drilled, and in the sixth year the final 15.16 acres are drilled. In the eleventh year production will be down to 8 bbls. a day. Table 1 shows acreage drilled and oil recoveries by years.

The operator must start out with a capital of $160,000 to cover the first year's development disbursements. Assuming a price of $2.25 a barrel for the oil produced net cash receipts by years will be as follows: Second year, $5,902.58; third year, $4,386.90; fourth year, $1,674.41; fifth year, $2,936.90; sixth year, $42,450; seventh year, $86,667.50; eighth year, $53,001.50; ninth year, $26,500.75; tenth year, $13,719.45; eleventh year, $4,678.05. Cumulative net cash receipts total $245,290.79

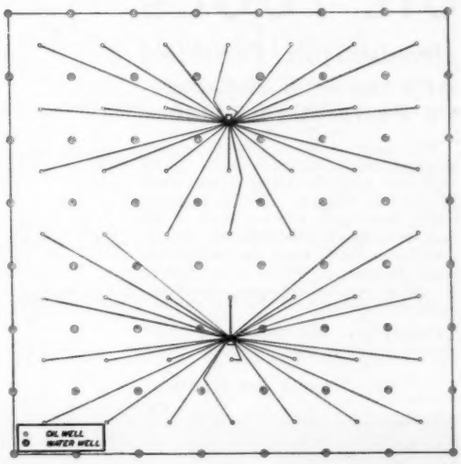


Fig. 2—Sketch showing rod lines leading from central power stations to the oil wells

on paper, and by using a compound discount factor which may be considered modest for a long range program, that is, 6 per cent interest and 4 per cent risk, or 10 per cent total, present worth of the 100 acres may be set at $123,597 or $1,235 per acre. The jump in net cash receipts in the sixth year is accounted for by elimination of such factors as development disbursements, interest on notes payable, and notes payable (capital).

Distribution of disbursements for development outlined above may be shown as of January 1, 1936, as follows: Drilling and material to equip a 1,600-foot water intake well, the contractor to clear location, pile brush ready for burning. to furnish his own fuel, light and water: drilling at 90 cents a foot, $1,440; 45 feet of wood conductor at 28 cents a foot, $12.60; 20 feet of 4¼-inch perforated liner (100 feet to five wells), at 25 cents a foot, $5. Liner is placed only in wells that cave. One-fifth 4¼-inch belled collar (i.e., used in one out of five wells on average), 20 cents; 1,593 feet of 2-inch seamless tubing, coated, at 17.31 cents a foot, $265.75; two 2-inch open couplings, $2.84; one

TABLE 1—THEORETICAL PROPERTY IN THE BRADFORD FIELD OF 100 ACRES WITH ESTIMATED RECOVERY 4,000 BBLS. PER ACRE

	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year	11th Year
1st Year Development— 34.34 ac.	.....	54,944	41,208	20,604	13,736	6,868	.....	.....	.....	....	....
2nd Year Development— 10.10 ac.	.....	.....	16,160	12,120	6,060	4,040	2,020	.....	.....	....	....
3rd Year Development— 14.14 ac.	.....	.....	.....	22,624	16,968	8,484	5,656	2,828	.....	....	....
4th Year Development— 12.12 ac.	.....	.....	.....	.....	19,392	14,544	7,272	4,848	2,424	....	....
5th Year Development— 14.14 ac.	.....	.....	.....	.....	.....	22,624	16,968	8,484	5,656	2,828	....
6th Year Development— 15.16 ac.	.....	.....	.....	.....	.....	.....	24,256	18,192	9,096	6,064	3,032
Total ..... 100.00 ac.	.....	54,944	57,368	55,348	56,156	56,560	56,172	34,352	17,176	8,892	3,032
Average per day	.....	151	157	152	154	155	154	94	47	24	8

Note—Estimated percentage of recovery, by years: First year, none; second year, 40 per cent; third year, 30 per cent; fourth year, 15 per cent; fifth year, 10 per cent; sixth year, 5 per cent; total, 100 per cent.

2-inch brass R & L nipple and collar, $1.59; one 6¼-inch flood packer, $14; one 2-inch C.I. plug, 5 cents; one 6"x7"x24" wood plug, $2; one 6"x8¼"x 12" wood plug, 85 cents; 100-quart shot, $175; cleaning out, one day, $25; cementing, $20; testing with portable air compressor to set packer properly, $15; trucking equipment to lease, $20; teaming to well location, $15; meter and fittings, $30; boxing and insulation, $15; fittings (connections to water line), $10; superintendence, $30; anchoring, $30. To this is added 5 per cent, or $106, for contingencies.

Oil Well Costs

Drilling 1,600 feet, $1,440; 45 feet of wood conductor, $12.60; 360 feet of 6¼-inch casing, $232.20; 100-quart shot, $175; cleaning out, $25, one 6¼"x30" casing nipple, $3.11; 100 feet of 4¼-inch perforated liner, $25; one 4¼-inch belled collar, $1; one 6¼-inch casinghead, $5.23; one 2'x5' perforated pipe, $1.21; one 2-inch plunger barrel, $29.61; 1,588 feet of 2-inch 4-pound tubing, $303.94; 1,575 feet of five-eighths inch sucker rods, $92.93; one ⅝"x10' sucker rod sub, $1.60; one 1⅛"x11' polish rod, $2.56; one polish rod elevator sub, 37 cents; one polish rod clamp, 65 cents; one 2-inch C.I. stuffing box, $1.60; three stuffing box rings, 12 cents; one pony beam jack, complete installed, $40; one 1"x18" turnbuckle, $1.60; one hold down or stroke post, $15; one C.C. clamp, $1.27; two ¾"x16" hook-off stirrups, $5; one hook-off hook, $1.30; one power clevis, $2.85; one 20-bbl. steel receiving tank installed, $65; one gauge pole, 80 cents; one wood plug, 20 cents; 20 feet steel oil line, $2.86; eight ¾"x6" lag screws, 56 cents; four ¾"x20" machine bolts, 56 cents; two pull rod clamps, 62 cents; nine 2-inch tees, $2.25; five 2-inch plugs, 25 cents; three 2-inch ells, 81 cents; four 2-inch st. ells, $1.36; three 2-inch ground joint unions, $2.10; two 2-inch stops, $4.70; five 2"x6" nipples, 85 cents; one 2"x10" nipple, 28 cents; seven 2"x12" nipples, $2.17; trucking equipment to lease, $30; teaming to well location, $20; superintendence, $50. Add 5 per cent, or $130.30, for contingencies.

Coring Cost

Cost of coring well with diamond core machine is distributed as follows: Rental of machine with operator, $520; core containers, etc., $24; labor (recovering core), $16; mileage, $12; core analysis, $298; contractor's time, five days at $25 a day, $125; hauling machine and equipment, $80.

Water Plant Cost

Cost of the water plant required for the theoretical 100-acre development is distributed as follows: Labor and teaming, $2,000; equipment, $2,750; building, $1,500; sand, cement, gravel, etc., $1,000; pump, $1,000; engine, $1,750.

Pumping Power Cost

Cost of pumping power is distributed as follows: Labor and teaming, $1,500; equipment, $1,000; power, $900; engine, $850; building, $1,000; sand, cement, gravel, etc., $750.

Development Schedule

Items in development and costs in each of the first six years may be listed as follows: First year: Twenty-eight water wells, $62,618.36; 17 oil wells, $46,519.14; three wells cored, $3,225; one power, $6,000; one water plant, $10,000; one house, $3,000; two 140-bbl. tanks, $800; 5,000 feet of 2-inch gas lines laid, $1,150; 7,000 feet of 2-inch oil lines laid, $1,610; 7,500 feet of 2-inch water lines buried, $2,625; 1,000 feet of 4-inch water lines buried, $700; 10,500 feet of three-quarters inch pull rods installed, $1,680; one tractor, $2,500; one automobile, $600; one 1½-ton truck, $700; one warehouse, $1,000; miscellaneous tools and equipment. The total cost is $145,727.50.

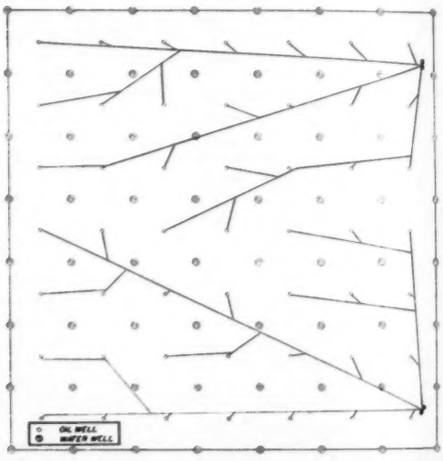


Fig. 3—Diagram of oil gathering system showing lines from wells to pump stations

Second Year Development

Six water wells, $13,418.22; five oil wells, $13,682.10; 1,500 feet of 2-inch gas lines laid, $345; 2,000 feet of 2-inch oil lines laid, $460; 2,300 feet of 2-inch water lines buried, $805; 3,500 feet of three-quarters inch pull rods installed, $560. Total cost is $29,270.32.

Third Year Development

Eight water wells, $17,890.96; seven oil wells, $19,154.94; one power, $6,000; two 140-bbl. tanks installed, $800; 2,500 feet of 2-inch gas lines laid, $575; 3,000 feet of 2-inch oil lines laid, $690; 2,300 feet of 2-inch water lines buried, $805; 300 feet of 4-inch water lines buried, $210; 5,000 feet of three-quarters inch pull rods installed, $800. Total cost is $46,925.90.

Fourth Year Development

Six water wells, $13,418.22; six oils wells, $16,418.52; one well cored, $1,075; 2,000 feet of 2-inch

REVIVE YOUR SLUGGISH WELLS

with these dependable

GRANT OIL TOOLS

Production Doubled

with the GRANT Hydrostatic Perforation Cleaner

Why keep on losing money on your sluggish, small production wells. *Clean them out* with the Grant Hydrostatic Perforation Cleaner, quickly, economically, thoroughly, and put them in the best condition to produce more oil. This letter shows what the dependable Grant Hydrostatic Perforation Cleaner is doing for others—you, too, can profit by its use.

Remember, this easily operated cleaner runs on your wire line, concentrates its powerful hydrostatic action on a *limited area* of perforations, and actually removes the perforation-clogging accumulations of sand, tar, mud and paraffine from the well. Is it any wonder operators are enthusiastic in praising the Grant Hydrostatic Perforation Cleaner?

*Name on Request

November 19, 1935.

Grant Oil Tool Company,
2042 East Vernon Avenue,
Los Angeles, California.

Gentlemen:

We are pleased to give you the following information in connection with the results obtained with the use of your Grant Hydrostatic Perforation Cleaner on our [redacted] well at Long Beach, California.

This well has 8 5/8" 28# casing set with a 5 3/4" 23.5# liner to a depth of 4018 feet, the liner had been shot for a distance of 145 feet, the shots being 6" apart. On July 12th the production of this well was approximately 70 barrels per day with a fluid level of about 700 feet. Your Grant Hydrostatic Perforation Cleaner was ordered out on the above date and was run intermittingly for a period of five days, raising the fluid level to approximately 1300 feet, and when put on the pump, produced 140 barrels per day.

After your Cleaner had been run, we found that approximately 60 feet of sand and mud had fallen to the bottom of the well which apparently had entered through the cleaned perforations, and it was necessary to bail this material out before again placing the well on production.

Should you desire to refer anyone to this Company, we will be pleased to give them what current information that we have at that time concerning the cleaning of this well.

Very truly yours,

[redacted]

For Complete Information and Prices See Your New 1936 Composite Catalog or *write, wire or phone to our nearest office.*

480 FEET of SAND

Removed with the

GRANT HYDROSTATIC BAILER

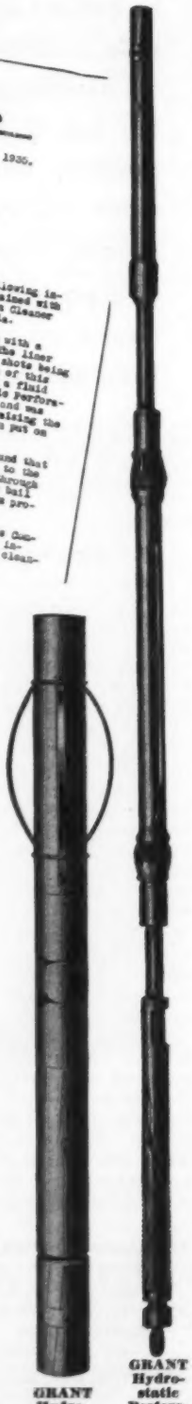
HERE is the pile of sand that filled a 10-inch casing for a distance of 480 feet. No wonder production had dropped to almost nothing. Yet after the tightly packed sand had been removed in less than 60 hours with the Grant Hydrostatic Bailer, this well became a good producer again.

The powerful suction of the Grant Hydrostatic Bailer (run on your wire line) easily picks up sand, debris and junk from the bottom of any well. Put one of these dependable tools to work for you.

GRANT OIL TOOL CO.

VENTURA and BAKERSFIELD

2042 East Vernon Ave. LOS ANGELES, CALIF. — CALIFORNIA — 2216 Campbell St. HOUSTON, TEXAS



GRANT Hydrostatic Bailer

GRANT Hydrostatic Perforation Cleaner

gas lines laid, $460; 2,500 feet of 2-inch oil lines laid, $575; 1,500 feet of 2-inch water lines buried, $525; 300 feet of 4-inch water lines buried, $210; 4,000 feet of three-quarters inch pull rods installed, $640. Total cost is $33,321.74.

Fifth Year Development

Eight water wells, $17,890.96; seven oil wells, $19,154.94; one well cored, $1,075; 2,500 feet of 2-inch gas lines laid, $575; 3,000 feet of 2-inch oil lines laid, $690; 2,200 feet of 2-inch water lines

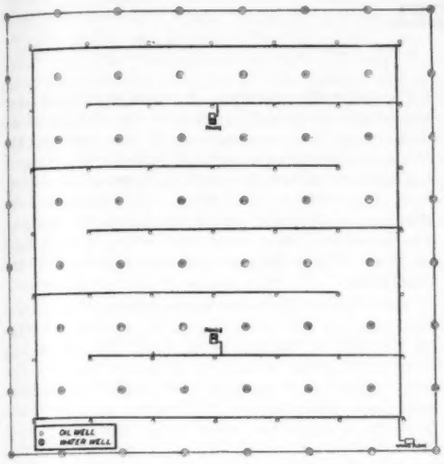


Fig. 4—Gas gathering system for theoretical water-flooding project, the gas being used to supply power to gas engines in water and power plants

buried, $770; 300 feet of 4-inch water lines buried, $210; 4,000 feet of three-quarters inch pull rods installed, $640. Total cost is $41,005.90.

Sixth Year Development

Eight water wells, $17,890.96; seven oil wells, $19,154.94; 2,500 feet of 2-inch gas lines laid, $575; 500 feet of 2-inch oil lines laid, $115; 2,200 feet of 2-inch water lines buried, $770; 300 feet of 4-inch water lines buried, $210; 5,000 feet of three-quarters inch pull rods installed, $800. Total cost is $39,515.90.

Power Exposition Program

Features of paramount interest to the power industry are being incorporated in the programs of the Midwest Power Engineering Conference and the Midwest Engineering and Power Exposition to be held in Chicago, April 20-24, according to a joint announcement by Frank D. Chase, president of the conference, and George E. Pfisterer, manager of the exposition.

Engineers of national prominence will appear at the conference sessions to be held in the Palmer House in the morning and at the International Amphitheatre in the afternoon. The exposition will be held at the Amphitheatre.

Diesel, internal combustion power, fuel power and fuel burning equipment will be among the features of the exposition. Aside from the products of leading power appliance manufacturers there will be a number of highly interesting scientific exhibits.

Lederer Opens New York Office

E. R. Lederer, well known among refiners and natural gasoline manufacturers, has opened an office as consulting engineer at 80 Broadway, New York City. Doctor Lederer has had over 30 years' experience in designing, constructing and operating refineries, gasoline plants and pipe lines. His oil work started in the oil-producing countries of Europe, and his later work was done in the United States and Mexico. Doctor Lederer has been engaged in the arbitration of labor disturbances, has done considerable work in economics and investigation of oil properties and has contributed several articles to scientific books and trade papers.

New life blood

Before a skimming plant refiner reaches the end of his financial rope he ought to call Parsons.

Parsons designs and builds special Dubbscracking and Dubbs reforming units (and units for other refining purposes.)

Parsons-built Dubbs units are infusing the life blood of earning power into more than one refining business that was dying of profit-starvation.

Parsons will do the same for your business.

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Lag of Ignition Is Utilized to Determine Cetane Rating of Diesel Fuel Oils

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The purchasing of diesel fuels on a quality basis accentuates the need of a representative laboratory procedure for measuring the cetane number of these fuels. A "fixed ignition lag" method was developed by the authors and reported at the Detroit meeting of the Society of Automotive Engineers. A part of the paper describing this method is presented here. This method was found to rate diesel fuels in the same order as they behave in an oil field engine.

The more diesel fuels are purchased on a quality basis the mose pressing becomes the need for a yardstick. The A.S.T.M.[1] selected the "cetane number" for measuring ignition quality and by definition a diesel oil is 40 cetane number if in ignition quality it equals a blend of 40 per cent cetane ($C_{16}H_{34}$) and 60 per cent alphamethylnaphthalene ($C_{11}H_{10}$). So we do have a yardstick and the only problem is how to apply it: Finding a procedure by which one can tell whether or not a sample fuel has the same ignition quality as a reference fuel.

The solution of Pope and Murdock[2] is essentially a starting test. The testing engine is motored without injection at a certain compression ratio. Then for three seconds the nozzle vent is closed and injection allowed to take place. If no firing occurs the procedure is repeated with a higher compression ratio. The lowest compression ratio at which firing occurs is the critical compression ratio. If the C.C.R. of the sample fuel and the reference fuel are equal, they have the same cetane number.

The "Delay Method" pioneered by Boerlage and Broeze[3] compares the fuels in a running engine on the basis of their ignition lag. In one version of that method the ignition lag is read on a neon lamp protractor. In another version a knockmeter is employed—the kind used for knock testing gasolines. Identical ignition delay angle or identical knockmeter reading is the indication of identical ignition quality.

Theoretically either of these methods is perfectly satisfactory. As soon as we can consistently decide whether or not two fuels possess the same ignition quality, the problem of fuel rating is solved. All we have to do is pick from a row of reference fuels the one with which the test fuel matches. The difficulties that have been encountered are solely of technical nature.

From a practical testing method we demand three things: (1) That it be convenient; (2) that it be reproducible; (3) that it be representative. Let us ignore this last point for the time being; we shall come back to it later. If we are satisfied with a reproducibility of ±5 cetane units, then the C.C.R. method is no doubt convenient. However, to obtain reproducible results within say ±3 cetane numbers, a painstaking procedure has to be followed in order that identical heat conditions in the cylinder may be reestablished before each ignition, and the method ceases to be convenient.

The convenience and reproducibility of the delay method are adversely affected by the use of the bouncing pin as an ignition indicator. The friction between pin and barrel and the arcing between the contact points causes irregular action. Consequently, readings could not be duplicated with sufficient consistency to permit the drawing of a calibration curve between ignition lag and cetane number or knockmeter reading and cetane number. In the absence of such a calibration curve each test fuel had to be individually bracketed by two reference fuels, a laborious affair. Unfortunately the bouncing pin readings varied even during the same run which added uncertainty to the determinations.

In the method developed at Penn State the bouncing pin was replaced by an electromagnetic pick-up such as is used for phonographs and magnetictype radio speakers. A short stiff wire resting on the diaphragm transmits the motion of the diaphragm to the armature of the pick-up. The electromotive force generated in the coil surrounding the armature is used to control the operation of thyratron tube. When the velocity of the diaphragm is high, as at the time of ignition, the thyratron relay trips and causes a neon lamp to flash. The timing of the flash is read on the protractor.

The circuit is shown on Figure 1. The current generated in the coil reduces the negative voltage on the grid of the thyratron tube, thereby causing it to conduct and permits a condenser to discharge. The current thus passing to the plate of the tube goes to a high tension coil, which in turn sends a flash through the neon lamp. The neon lamp flashes once in every cycle, at the moment the velocity of the pick-up motion reaches a predetermined magnitude. At any other time the voltage generated is insufficient to trip the thyratron relay, and the neon lamp remains dark.

The mechanism is practically frictionless. No electric contactors are used; therefore troubles with arcing and pitting are absent. The wire and armature having a very high natural frequency do not bounce but follow the motion of the diaphraghm. The pick-up is surprisingly insensitive to rough handling, to the manner in which it is mounted, and to the pressure with which it bears down on the diaphragm. There is but one single adjustment in the whole apparatus, resistance R (see Figures 1 and 3) which determines the minimum rate of rise necessary to trip the thyratron relay. For proper setting R is increased until the neon lamp ceases to flash when injection is cut out but it responds as soon as ignition takes place.

A pick-up similar to the one described is used as an injection indicator in place of the conventional Bosch contact indicator, and again provides the advantage of eliminating electric contactors.

Figure 2 shows both pick-ups, the ignition pick-up and the injection pick-up, mounted on a C.F.R. engine. A double-throw switch permits reading the injection or the ignition timing at will. Figure 2 also shows the flywheel type neon protractor. The large scale permits one to read the angles to an accuracy of about one-tenth of a degree, in a convenient standing position. Of course the consistency of the readings is such that it makes the use of an enlarged scale desirable. Figure 3 shows the electronic equipment which can be placed conveniently out of the way.

For routine testing the "Fixed Ignition Lag Method" was found most convenient. The injection timing is set and kept at say 18 degrees crank angle before top center. Ignition is always to occur at top center exactly. For low cetane fuels the required compression ratio to produce ignition at top center is high and for cetane fuels it is low. By moving the adjustable plug the compression ratio is adjusted until the neon lamp indicates ignition exactly at top center. This is the "required compression ratio" of the test fuel. In a similar

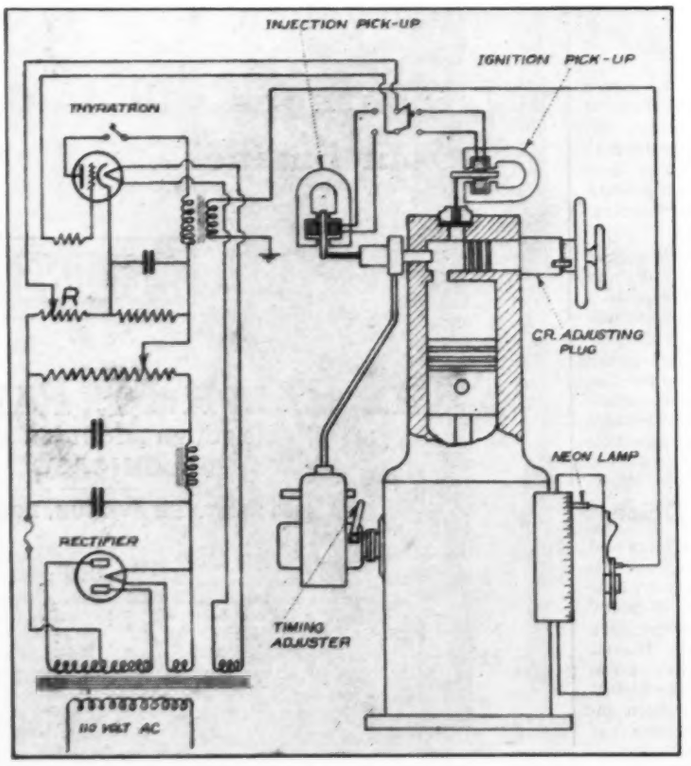

Fig. 1—Wiring diagram for Penn State lag indicator

manner the required compression ratios of various blends of the two reference fuels, cetane and alphamethylnaphthalene, are determined from which a calibration curve is plotted as shown in Figure 4. By marking the R.C.R. of the sample fuel on the calibration curve, its cetane number can be read. Figure 5 shows our ratings of the Shell secondary reference fuel blends generally used in our tests.

The R.C.R. versus cetane number curve varies only little from day to day and even that variation could possibly be eliminated by keeping the intake air pressure independent of the barometric pressure. For approximate rating a permanent calibration curve can be used. Plotting a "day curve" each time, our readings seldom differed more than 2 cetane numbers from one day to another and 6½ cetane numbers is the maximum deviation ever observed. Table 1 is typical of the readings obtained and shows satisfactory reproducibility.

The Fixed Ignition Lag Method is claimed to be much faster than either the C.C.R. or the knockmeter method. All waiting associated with those methods, for the purpose of clearing the cylinder from the combustion products or for the knockmeter to assume equilibrium position, is here eliminated. But still more important is the elimination of the individual bracketing required by the old methods by which each fuel to be tested had to be bracketed by two reference fuels. Attempts to establish a calibration curve between knockmeter readings and cetane number, or ignition delay angle and cetane number were unsuccessful (see Figure 6). The readings are not sufficiently consistent to permit plotting even a semipermanent calibration curve. Consequently each test fuel had to be compared with a number of reference fuels, using successively narrower brackets switching every time from a reference fuel to the test fuel until the brackets were close enough to permit some kind of an interpolation.

In the new method all bracketing is done away with and after the calibration curve is obtained, the rating of a fuel consists of determining its R.C.R., which can be done very quickly. The advantage offered by the new method will be appreciated from the fact that seven to eight fuels can be accurately tested in an hour. For plotting the "day curve" an additional hour may be allowed. If, however, a portion of the curve is sufficient to rate the samples, the complete day curve need not be determined, but only the required portion. For approximate rating (say ±3 cetane number) a permanent calibration curve can be used.

Representative Test

Before a laboratory test is standardized we want to be satisfied that it is a "representative" test: That it rates fuels in the same order as they would be rated by their behavior in a field engine. This presupposes that most service engines rate fuels in the same order, which probably is the case. The findings of Boerlage and Broeze indicate that compression ignition engines vary less in this respect than spark ignition engines. That means that if in any given engine fuel A shows a better ignition quality than fuel B, then A will also be better in any other engine. If this were true universally then it would make no difference what engine and what operating conditions are chosen for the laboratory test. However, the fact is that a change in the engine factors slightly changes the rating of fuels, and the more a test simulates service engine conditions the more representative it is likely to be.

From this point of view the C.C.R. test is condemned by some investigators, because it does not rate the fuel in the same condition as a running engine. The cylinder wall is cooler and the ignition lag close to 180 degrees instead of about 15 degrees prevailing in a running engine. Others consider the C.C.R. test as more indicative of the starting quality of the fuel. It is only fair to state that on the basis of actual evidence the C.C.R. ratings check surprisingly well with the ratings obtained by the Fixed Ignition Lag Method in a running engine. Our tests on 12 fuels showed a Pearsonian correlation of 90.3 per cent, see Table 2.

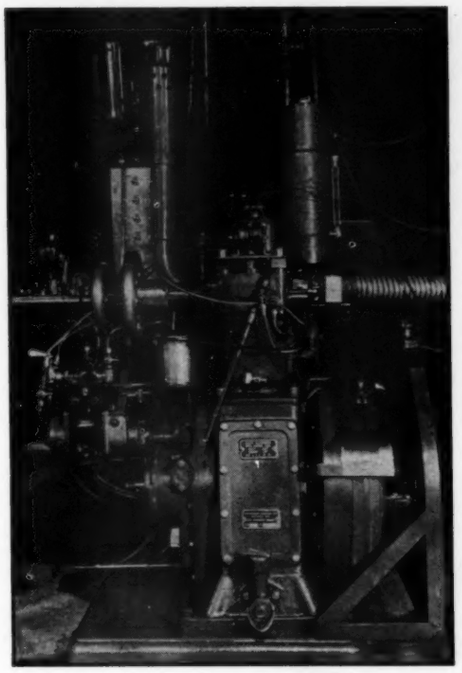

Fig. 2—Engine used in tests

The development of the C.F.R. diesel test engine was based on the belief that engine tests will prove to be more representative than bomb test or chemical tests. In view of repeated proposals for a simplified rating these physical and chemical methods should not be dismissed without a hearing.

The self ignition temperature as determined by the Moore bomb method on 12 fuels investigated by Le Mesurier and Stansfield[8] showed a correlation with delay angles not higher than 75 or 80 per cent[7]. Bombs of refined construction as the Farnboro bomb[8] come much closer to the engine ratings but in the first cost of equipment and testing convenience they offer no advantage over the engine tests.

More convenient and reproducible are the chemical tests, the most popular of which are the Aniline Point[9], the Diesel Index [10], and the Viscosity-Gravity Index[11]. To see how representative these indices are we have compared the results of accurate chemical tests with those of engine tests of 19 different fuels (see Table 3). The correlation runs as follows: Aniline Point, 89 per cent; Diesel Index, 93 per cent; Viscosity-Gravity Index, —86 per cent; Viscosity slope index (tangent of the viscosity line on the A.S.T.M. chart), —86 per cent. If the blends of Dupo and Methylnaphthalene are disregarded the correlation coefficients become 95, 97, —94, and —67 per cent respectively. It is apparent that none of these indices offers a perfect substitute for engine testing but they can be recommended for approximate ratings or for laboratories that are not equipped with a fuel testing engine.

Data on the correlation of C.F.R. ratings of diesel fuels with their ratings in service engines have been reported by Boerlage and Broeze[6], Joachim,[12] and the Naval Experiment Station[5] and the agreement is very satisfactory. Accumulation of more data on this line is nevertheless desirable.

Operating Conditions

A series of investigations was carried out to determine the optimum operating conditions and to ascertain the tolerances that may be allowed in the prescribed adjustments.

The engine speed of 900 r.p.m. was chosen—in preference to 600 r.p.m.—as being more typical of the high speed engines in which most of the fuels tested are to be used. Moreover, the timing of injection and ignition may be determined more accurately when the neon lamp flashes more frequently. Since tests have shown that the R.C.R. is insensitive to engine speed in this engine, a deviation of ±30 r.p.m. can safely be permitted.

The injection advance angle, which—with ignition at top center—is numerically the same as the ignition lag, was chosen so that the compression ratio required to ignite a fuel of average ignition quality in the allotted time, would be typical of the compression ratio of service engines. Ignition lags of 16 to 26 degrees were tried (see Figure 7); all were found satisfactory and gave the same ratings to fuels tested. Eighteen degrees is recommended because a shorter ignition lag would require compression ratios above 22 for testing poor fuels and a longer ignition lag may be considered not typical of common practice.

In choosing top center for the ignition timing the main consideration was that a low rate of pressure rise preceding the ignition makes the latter distinct and easy to identify. However, if it is much later than top center, ignition timing becomes erratic. Incidentally, with ignition at top center ignition lag is about minimum; therefore a deviation in injection timing will cause minimum deviation in ignition lag.

Two considerations determined the choice of the injection tube and the nozzle opening pressure; first, the cycle to cycle variations in the injection timing should be small; and second, the beginning of the injection should be sharp so as to give a definite

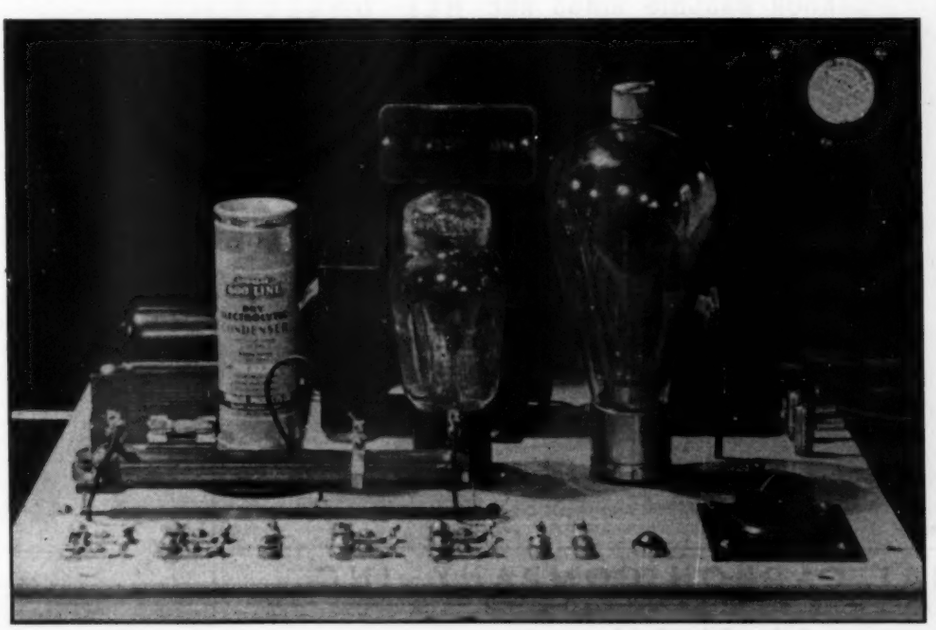

Fig. 3—Rectifier tube, thyratron, condenser and other electrical equipment used in making the ignition lag tests for determining the cetane value of diesel fuels

point from which to measure the beginning of the ignition lag. The 0.031-inch bore x 25-inch tube chosen resulted in reducing the injection lag to 70 per cent of that obtained with a 0.125-inch x 6-inch tube. Figure 8-b shows that the short tube gave the smallest cyclic variations in injection timing (shown by the shaded area) and also permits uniform injection of smaller quantities of oil. The injection pressure also influences the variations in the injection timing as is shown in Figure 8a. Any pressure above 1,200 pounds per square inch is satisfactory in this respect. The second requirement, that the beginning of the injection should be sharp, was investigated by means of a cathode ray oscillograph. It was shown that the nozzle opened twice during each injection and that at the higher pressures the first opening was so slight that sometimes the neon lamp flash indicated the time of the second opening, which could cause an error in fuel rating. Nozzle behavior at 1,500 pounds per square inch was found to be satisfactory in all respects.

The fuel quantity of 0.020 cc per injection was chosen because this is sufficient to give regular injections, but is not so much as to produce violent combustion when poor fuels are burned. Larger quantities do not make the injection nor ignition indications more uniform when the small tube is used, but are necessary with larger tubes in order to avoid irregular injections.

Inlet Air Temperature

The inlet air temperature of 100° F. is higher than normal but it was adopted because it might not be possible to maintain a lower temperature in summer without cooling.

The tolerances permitted for the various operating conditions are not so wide as to affect fuel ratings yet can be maintained easily. The factors that affect fuel ratings are the compression ratio, the injection timing and the inlet air temperature. The compression ratio can be determined precisely, but the adjustment depends on reading the time of the ignition flash correctly. An error of 0.1 degree in the injection or ignition timing will cause an error of about 0.2 cetane number with a 40 cetane fuel or 0.4 cetane number with a 70 cetane fuel as is shown in Figure 7. With the flywheel type of protractor readings to 0.1 degree can be estimated with no great difficulty. Figure 8c shows that a variation of 1° F. in the inlet air temperature results in a change of the R.C.R. by about 0.02 units which is equivalent to about 0.1 to 0.2 cetane numbers for 40 and 70 cetane fuels respectively. The pressure of the inlet air has the greatest effect but is not controlled in the C.F.R. engine. Throttling tests show that the R.C.R. increases about one unit when the air pressure is reduced by 1 inch mercury. By maintaining the inlet air pressure independently of the barometric pressure, it should be possible to rate

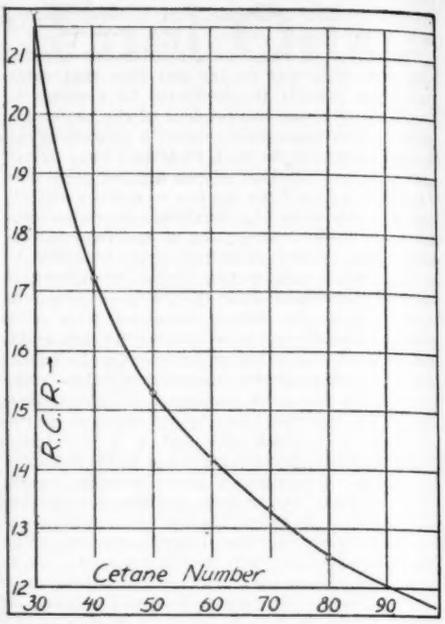

Fig. 4—Calibration curve based on cetane and alphamethylnaphthalene. Barometric pressure 28.7 inches

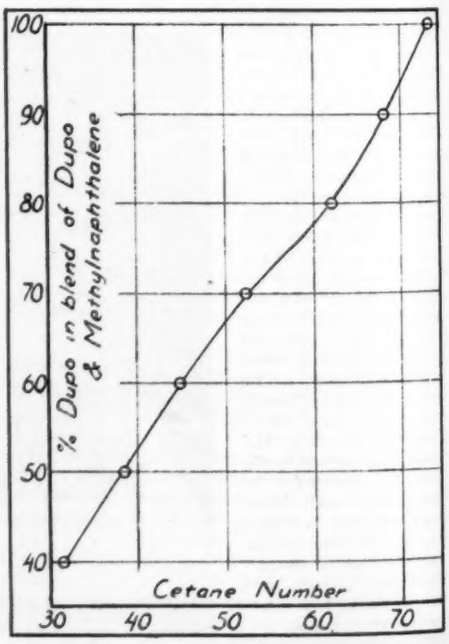

Fig. 5—Cetane rating of blends on secondary reference fuels generally used in fuel tests

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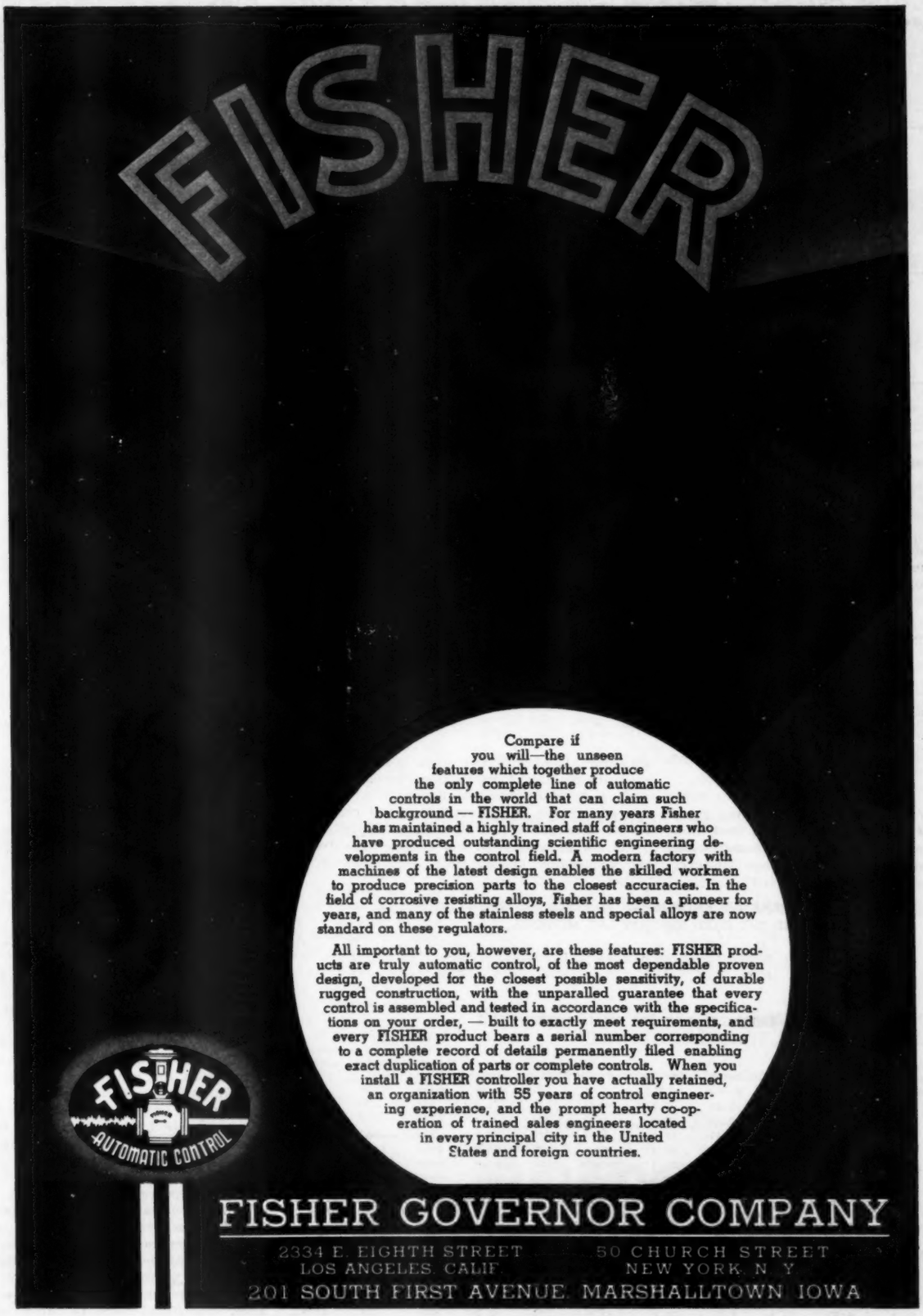
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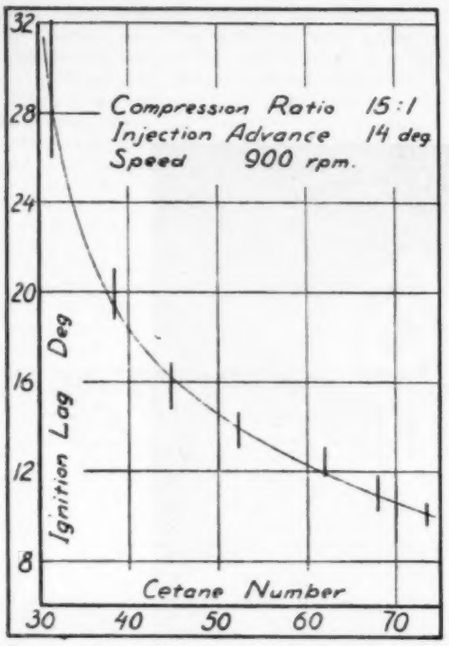

Fig. 6.—Scattering of points in ignition readings. Compression ratio and injection advance angle kept constant

fuels with fair accuracy by means of a permanent calibration curve, if the engine is kept clean of carbon.

R.C.R. is not sensitive to nozzle opening pressure and fuel quantity; therefore liberal tolerances are permissible.

What is the advantage of the Fixed Ignition Lag Method? If we measure only medium grade fuels it has no advantage over a method that uses a fixed compression ratio and compares the fuels on the basis of their ignition lags. However in testing extreme fuels it is more practicable to change the compression ratio adhering to a normal ignition lag than to maintain a normal compression ratio and measure abnormal ignition lags. What is desired is a consistent calibration curve to eliminate laborious individual bracketings. Trying to plot ignition lag against cetane number it was found that with low cetane fuels when the ignition lag is 25 degrees or more the points scatter badly (Figure 6). Very high cetane fuels on the other hand give too short ignition lags for accurate reading. A calibration curve between R. C.R. and cetane number, based on a fixed 18 degrees ignition lag is consistent and convenient to use between 30 and 100 cetane values.

Is the measured ignition quality indicative of the combustion knock? Only approximately but not exactly. According to our oscillographic measurements the combustion knock follows more the maximum rate of pressure rise than the ignition lag. For instance above 55 cetane there is very little variation in the audible knock and also little variation in the maximum rate of pressure rise but considerable variation in the ignition lag. From the operator's point of view the latter is probably more important.

TABLE 1—RATING OF FUELS ON VARIOUS DAYS

Date— Fuel	*7-2	*7-3	*7-5	7-10	†7-17	†7-17	11-6	11-8
A	65.5	63.0	63.6	66.0	64.0	65.0	66.0	66.0
B	54.5	55.5	54.0	59.0	60.0	62.0	61.5	62.5
C	44.5	43.5	43.0	44.0	42.0	45.0	44.0	44.5
D	62.0	61.5	59.5	63.0	64.0	65.0	62.0	64.5
E	62.0	61.0	59.0	63.0	58.0	61.0	58.0	62.0
S	52.5	52.0	50.0	53.0	49.0	53.0	51.5	55.5
V	48.5	48.0	49.0	54.0	53.0	55.0	54.5	56.0

* 600 r.p.m.
† Dirty nozzle.

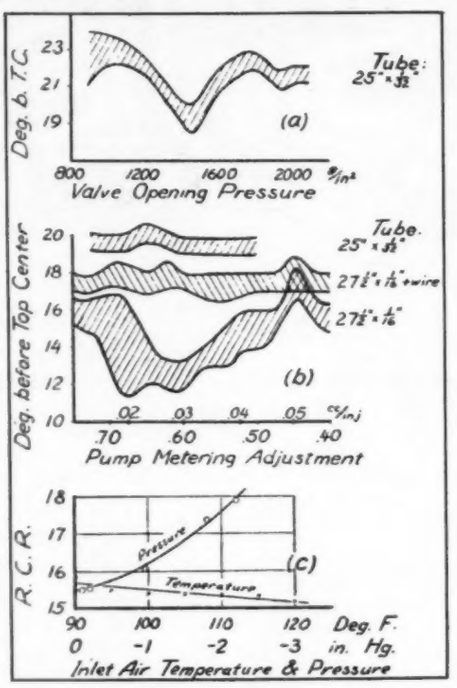

Fig. 8—(a) Variation of injection timing with valve opening pressure. (b) Variation of injection timing with injection quantity and tube. (C) Variation of required compression ratio with inlet air temperature and pressure

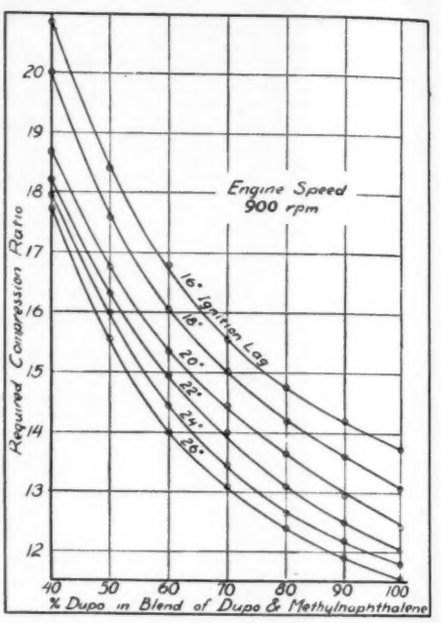

Fig. 7—Required compression ratio of reference fuels at various ignition lags

TABLE 2—COMPARATIVE RATINGS OF 12 FUELS BY THE C.C.R. AND THE FIXED IGNITION LAG METHODS

	A	B	C	D	E	S	V	B_1	B_2	B_3	B_4	B_5
C.C.R.	65.3	56.7	51.6	62.2	62.8	53.3	52.0	42.3	45.1	54.5	61.0	68.3
Fixed ignition lag	65.4	60.7	43.9	63.7	60.4	52.4	54.3	42.5	43.5	48.8	58.5	63.3

TABLE 3—EMPIRICAL RATINGS OF 19 DIESEL FUELS

Sample—	Vis. at 32° F. Saybolt Universal seconds*	Vis. at 32° F. Kinematic viscosity centistokes	Vis. at 100° F. Saybolt seconds*	Vis. at 100° F. Kinematic viscosity centistokes	Gravity °A.P.I.	Specific gravity 60/60	Aniline point ° F.	Diesel index	Viscosity gravity index	Viscosity slope	Fixed lg. lag cetane No.
E-1	44.1	5.69	33.6	2.28	32.9	.8607	118	28 8	.864	.692	42.5
B-2	42.2	5.08	33.2	2.13	36.0	.8448	125	45.0	.849	.681	43.5
B-3	45.8	6.24	34.1	2.47	37.2	.8388	142	52.8	.829	.662	48 8
B-4	59.5	10.36	37.2	3.48	37.0	.8398	164	60.6	.829	.674	58.5
B-5	59 1	10 23	37.2	3.48	39.7	.8265	171	67.9	.815	.667	63.3
40†	42.5	5.19	33.1	2.10	19.7	9358	77	15.2	.938	.692	31.5
50†	42.6	5.22	33.2	2.13	23.1	.9153	94	21.7	.918	.685	38.5
60†	43.6	5.55	33.5	2.24	26.5	.8956	113	30.0	.894	.678	44.8
70†	45.0	5 98	33 9	2.39	30.2	.8751	127	38.4	.876	.665	52 3
80†	46.8	6.56	34.4	2.58	33.9	.8555	143	48.5	.854	.657	62.0
90†	49.1	7.32	35.1	2.81	37.7	.8363	156	58.8	.832	.654	68.0
100†	52.6	8.34	36.0	3.11	41.9	.8160	172	72.1	.807	.641	73.5
A	78.7	15.51	40.7	4 58	37.6	.8368	177	66.5	.816	.667	65.4
B	183 7	39.45	53.0	8.46	35.1	.8492	187	65.7	.819	.655	60.7
C	45.1	6.02	33.9	2.39	33.5	.8576	126	42.2	.858	.673	43.9
D	103.4	21.39	44.1	5.69	37.3	.8383	181	67.5	.815	.654	63.7
E	81.8	16.25	41.3	4 77	37.8	.8358	177	66.9	.817	.658	60.4
S	81.1	16.08	40.8	4.63	32.9	.8607	155	51 0	.845	.670	52.4
V	...	....	45.5	6 17	31.6	.8676	162	51.2	.846	.660	54.3
V(68° F.)	61.3	10.87	....	....	....	....	....	....	....	....	....
V(120° F.)	39.1	4.68	....	....	....	....	....	....	....	....	....

* Conversion as per table given in J. Ind. Chem. 27, 82 (1935).
† Indicates volume percentage of Dupo in blends of Dupo and Methylnaphthalene.

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[11] Moore and Kaye, The Oil and Gas Journal, Nov. 15, 1934.
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Special Oil to Make Ice Slide Off Airplane Propeller

As oil aids sailors by quelling tossing seas, so may oil be the newest help for aviators in their battle with the menace of the ice formation on airplane propellers.

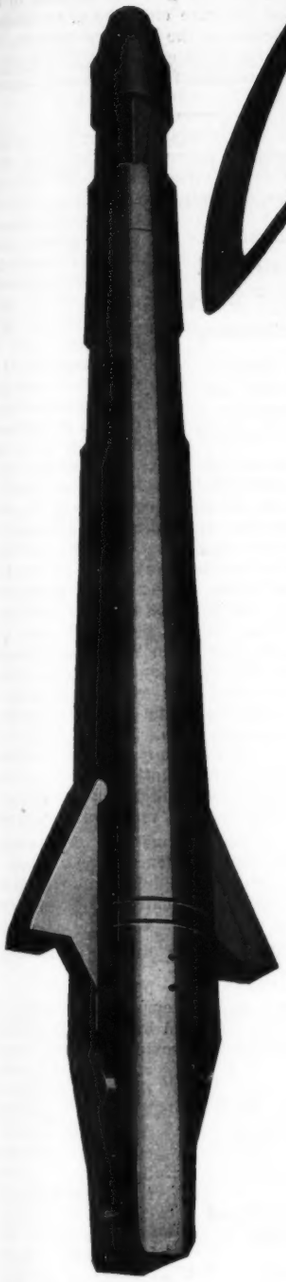
De-icing propellers, according to Harry E. Waner, Goodrich engineer, involves the covering of the propeller hub with a spinner cap which is covered with rubber and then treated with a special oil preparation.

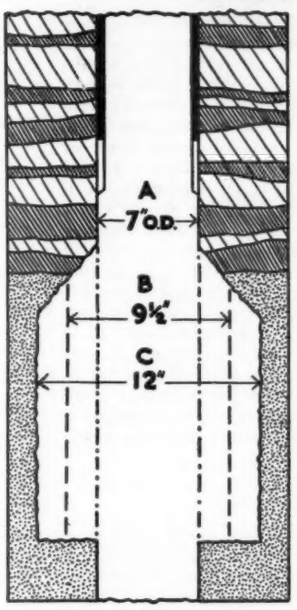
"The propeller blades," he added, "also are covered with rubber on the thrust side, around the entering edge and back to approximately the line of the thickest section on the convex side.

"This treatment, it must be understood, is not designed to prevent the formation of ice. Its purpose is, however, to minimize adhesion and thus allow centrifugal force to throw off the ice in smaller quantities, instead of large chunks. This, it will be seen, will prevent the off-balancing of propellers."

Work is under way, Mr. Waner indicated, on the use of a continuous flow of oil over the rubber propeller surfaces instead of the single oil treatment now in use.

BRIDGEPORT Announces "THE" ROE UNDERDIGGER





Above: Illustrating enlargement of the "pay" formation with the Roe "Pay" Underdigger. Here the "pay" in the 6¾ inch hole was first enlarged to 9½ inches, then later enlarged to 12 inches.

Underdigging of the hole may be started at any point below the casing and enlargements of as little as one inch, or as much as double the original size of the hole, may be made as desired.

Operation of the tool is extremely simple. It is sturdily built, having no fragile parts. Never has any part of the tool been lost in the hole. Tools are in service that have successfully completed 20 and more jobs. It may be successfully used after wells have been shot several times.

NEW PATENTED FIELD PROVEN CABLE TOOL FOR Increasing Oil and Gas Production in New or Old Rotary or Cable Tool Drilled Wells

Effectively used to increase initial production of new wells by removing Mud, Cement and other obstructions from the face of the "pay" formation; and to enlarge the "pay" area to secure maximum production from the open producing formation—

To increase initial production of new "lime" wells by enlarging the "pay" formation area that chemicals used in acidizing may contact a greater wall area—

To increase production in old "sand" wells by removing parafin, gypsum, mud and other accumulations from the walls, thus opening-up the producing formation for the free flow of the oil—

To secure a perfect cementing job by enlarging the bottom of the hole to insure perfect distribution and a better bond of cement around the casing shoe—

To remove "bumps" from the wall; to start a shoulder at any desired location in the hole for starting an underreamer, straightening a crooked hole, or side-tracking and drilling-by tools, etc.

PRODUCTION INCREASED FROM 15% TO 150% ON HUNDREDS OF WELLS

(Company names, well locations, etc. on request)

FOR SALE *or* RENT

Telephone "station-to-station" for complete information, prices, etc.

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TECHNICAL ABSTRACTS

Fuel Consumption

By ALEX TAUB

Before Detroit meeting of Society of Automotive Engineers

A discussion of the factors entering into fuel consumption and improvements made during the last few years which have resulted in greater fuel economy is given by the author. In spite of the improvement in efficiency and in the knowledge of what is needed, the fuel consumption now prevailing is no better than it was five years ago. This condition may be rightly blamed on smoother engines, mainly due to engine mountings, which together permit and encourage higher cruising speeds. Factors discussed are: Normal economy methods, high compression, revolutions per mile, volumetric, friction and spar setting. Improving fuel consumption by mixture distribution is also discussed by the authors. Designing the manifold as a method of improving distribution is pointed out. The manifold should be designed for equal air flow to all cylinders with a minimum overall restriction. In modern engines this is provided by designing proper flow lines through the manifold for wide range operation. Exhaust dilution is the obvious obstacle to inflammability, and represents the proper avenue of attack if better fuel consumption is to be gained, is the belief of the author. The amount of exhaust gas present in the cylinders at the time the exhaust valve closes, and the intake valve opens must be reduced. The fact that the overlap between intake opening and exhaust closing was responsible for bad idling has been known to the industry for years but has been disregarded because that overlap is necessary for high speed performance. Important factors in high-speed mileage improvement are: all carburetors have two operating mixture ratios, one for full throttle and a leaner one for part throttle; improvements in reduction of heat losses; and the fact that the wider range of present day engines permits operation at high speeds with high manifold vacuum and a throttle position that is an aid to distribution.

Relation of Exhaust Gas Consumption to Air-Fuel Ratio

By B. A. D'ALLEVA and W. G. LOVELL

General Motors Corp.

Before Detroit meeting of Society of Automotive Engineers

A knowledge of the fuel-air mixture being supplied to an engine under a particular set of operating conditions is of great importance in connection with the design and maintenance of motor vehicles. In this paper the authors discuss the determination of the air-fuel ratio being supplied to an operating engine, the exhaust gas composition being determined by chemical analysis. The validity and usefulness of a complete chemical analysis depends upon the relation between exhaust gas composition and air-fuel ratio. The establishment of a definite relationship between these factors provides directly a tool for determining air-fuel ratio and may be used for the measurement of volumetric efficiency and air flow when the fuel rate is known.

The authors' experimental work consists of measuring the air and fuel inputs to gasoline engines operating under various conditions of load, speed, and carburetor setting, and of analyzing samples of exhaust gas collected under these conditions. The engines used were a 1934 eight-cylinder valve-in-head automobile engine with a 3 3/32 inch bore and a 4⅝-inch stroke; a 1934 six-cylinder valve-in-head automobile engine with a 3⅛-inch bore and a 4-inch stroke; and a 1935 six-cylinder L-head truck engine with a 4¼-inch bore and a 4½-inch stroke. The engines were directly connected to electric dynamometers. Exhaust gas samples, obtained by withdrawal from the exhaust pipe close to the exhaust manifold, were collected in 250 cc. glass gas-sampling bottles by displacement of mercury. The data obtained from these tests indicates that there is no grouping of the data relating the exhaust gas composition to air-fuel ratio, as far as the different engines, operating conditions, or air-measuring procedure are concerned. The exhaust composition being related to air-fuel ratio only, and not to engine, load, or speed. This relationship, however, does not hold true if the engine is missing on one or more cylinders, or otherwise not operating properly. A graphical representation of all the data obtained is shown in a graph, in which the per cent by volume of the different constituents is plotted against the measured air-fuel ratio. In addition to comparing the calculated exhaust gas composition with the observed, the authors found it is also possible, from the experimentally determined exhaust gas composition, to compute the corresponding air-fuel ratio, assuming only that there has been no selective diversion of any constituent in the engine. Details of computations are given in an appendix.

The Effect of Gas Pressure on Piston Friction

By MORRIS P. TAYLOR

Before Detroit meeting of Society of Automotive Engineers

The effect of gas pressure on piston friction is investigated by driving with an electrical dynamometer a six-cylinder engine with valves removed and the valve stem bushings plugged. Air under pressure is admitted to the close space made up of the cylinders, valve passages, and manifolds, and a constant air pressure is maintained on the pistons. All tests are made in the automotive laboratory of the Massachusetts Institute of Technology, the investigation being made to determine the effect of increasing gas pressures on piston friction and in addition, a study of the effect of speed and of oil viscosity on the relation of piston to gas pressures is made. Six different series of tests are run. In the first series of tests the engine is run with the valves in, the manifolds open, and the oil and water temperatures are kept at 180° F. The second series are run with the valves removed, the manifolds open to atmosphere, so as to have no pumping losses, and the standard oil and water temperatures used. In the third test the engine is run with no piston rings, at atmospheric pressure and standard oil and water temperatures used. The fourth test involves changes in speed, other factors remaining constant, while in the fifth series of tests the speed is held constant and the jacket pressure and jacket-water temperatures are varied. The last series is run with the gas pressure behind the piston rings being varied.

Under the conditions mentioned above, it is found that the friction increases approximately as a linear function of the pressure and the running speed. The effect of the jacket-water temperature on the piston friction is marked, but it cannot be directly connected with the absolute viscosity of the oil at the temperature of the jacket water. Test runs with gas pressures relieved from behind the piston rings indicate that about one-fourth of the increase in friction with pressure is due to gas pressure behind the rings. Computations from the test results indicate that the increase in friction due to gas pressure on pistons, as compared with piston friction on the ordinary motoring friction test, is in the neighborhood of 2 to 3 pounds mean effective pressure, for this type of engine.

Fundamental Chemical and Physical Forces in Lubrication

By G. L. CLARK, B. H. LINCOLN and R. R. STERRETT

Los Angeles meeting A. P. I.

Physico-chemical forces emanating from metal surfaces and from certain types of molecules, known as polar molecules, are found to profoundly affect the behavior of the metals and lubricants involved in boundary lubrication, and are of importance in viscous lubrication. X-ray diffraction methods are used to study the orientation of the polar molecules on metal surfaces, the thickness of such films, the regimentation of polar molecules in lubricating-oil solutions, and the protection of metal surfaces from wear by such adsorbed oriented polar molecules. The extent of the fields of force between metal surfaces and polar lubricants is found to be many times greater than mono-molecular dimensions and approaches, if it does not exceed, the distance between surfaces in viscous lubrication. Highly polar molecules, such as the esters of chlorinated aliphatic acids and monohydric alcohols, are found to have a powerful effect on the formation of adsorbed films in boundary lubrication and the molecular regimentation in viscous lubrication. The stability of the regimented (cybotactic) groups of polar addition agents in lubricating-oil solution is demonstrated by the resistance of methyldichlorostearate blends to the disorganizing effect of temperature increases.

By means of a new method of measuring changes in the surface structure (fibering) of metals, it is shown that lubricants containing methyldichlorostearate actually protect rubbing metal surfaces from wear.

Trends in Automotive Servicing

By D. G. COOMBS and L. B. VEEDER

Los Angeles meeting A. P. I.

Oil companies have attempted to satisfy the increasing demand for speed in so far as gasoline service is concerned by providing wider service-station driveways, more conveniently arranged facilities, faster and more accurate power-driven dispensing equipment, more flexible delivery hose, larger capacity nozzles and, even more recently, computing pumps that eliminate any necessity for mental arithmetic in computing the cost of the gasoline dispensed to the customer. These facts are discussed by the author together with the demand for greater refinements in service, a more thorough, painstaking lubrication job, and additional comfort facilities such as modern heated waiting and rest rooms—all at no increased cost to the customer. This increase in operating equipment and facilities may result in: increased revenue either through price adjustment or reduced costs, the latter being obtained through cheapening the job or using improper or inferior lubricants, and/or a reduction of wages. The ease and simplicity of servicing has been more or less neglected in favor of cost and styling and as a means of remedying this situation the author suggests that a fact-finding committee of practical operating men from the marketing section of the oil industry be appointed to sit in with the designing engineers of the automobile industry to the end that the problems of both may be better understood, and greater cooperation secured.

PROBLEMS FROM READERS

Edited by T. F. Smiley

Wants Facts Regarding the Longest String of Well Casing Ever Run

A question has arisen among a group of men here as to the longest string of casing ever run into a well. Most of the men say it was run in a well in Crane or Upton County, Texas, but none of them is sure about it or knows just how long the string was. Can you tell me where the world's longest casing string was run and give a few facts about the well?—A. G. N.

The record string of casing was run in the deepest test ever drilled, Gulf Production Co.'s No. 103 McElroy, in Upton County, Texas. This string of casing was set and cemented at 10,301 feet in July,, 1933. It took 18 hours to run this 7⅝-inch, 34-pound pipe. The string averaged 30½-foot lengths of joints, and 9½-inch collars were used. Twenty-five minutes was consumed in mixing and running 1,000 sacks of cement in the hole. About five minutes was lost when steam went down in the boilers because of the heavy draft made by the two large cementing trucks, each containing three pumps working almost to their limits.

Six tons of ice were used in the cementing job to lower the temperature of the mixing water. The temperature of the hole at 10,631 feet, when pipe was run, was 148° F. The temperature of the hole at its present depth, 10,786 feet, is only 182.3°, much lower than the temperature in other deep tests in the district.

The equipment used, especially that subjected to severe stress and strain in drilling, pulling pipe, and other heavy jobs provides evidence of the great strides which manufacturers have made in the development and production of efficient material and equipment.

Although the test failed to find oil in commercial quantity it has been of great value in correlation work in connection with other drilling.

Intermittent Flow May Be Employed When Pressure Has Become Low

Perhaps you will give me a little information about the method of production referred to as intermittent flow. Is it the same as gas lift? Is it in common use in any of the oil fields of this country? Is this method a new one?—A. E. E.

Intermittent flowing, a form of gas lift, is employed for producing oil wells after the pressure has become reduced and production has declined to a comparatively low point. It has been found when the flowing pressure has declined to some given point for any diameter pipe, that a greater production can be obtained by intermitting than when employing continuous, or "straight" gas-lift flow, also a lower consumption of gas will be required for lifting the oil.

It was observed in Seminole when the production of oil had declined to a point between 200 and 400 bbls. a day, that substantial economy could be effected in the use of input gas by placing the wells on intermittent flow. In wells 6,500 feet deep in the Oklahoma City field, the point at which it is more economical to employ intermittent flow ranges from 200 to 1,000 bbls. per day, depending on prevailing conditions.

Intermittent flowing of oil wells has been practiced in the Mid-Continent and California for several years, according to S. F. Shaw, Westgate Oil Co., from whom facts in answer to your question were obtained. This method has been applied to wells 400 feet deep in the Nowata area, Oklahoma, wells 4,000 feet deep in the Seminole field and wells 6,500 feet deep in the Oklahoma City field. This form of gas-lift flow has also been employed in foreign fields, including Argentina, Peru, Rumania, Trinidad and Venezuela. So you see its use has become rather widespread.

During the past year and a half the use of intermittent flow has increased greatly in the Oklahoma City field, since there has been almost no other choice of an economic method when the wells have declined to a low production, that is, 100 bbls. per day or less, and where the bottom-hole flowing pressure is low.

The types of intermittent flow employed in the Oklahoma City field follow:

1. Flow through the annular space between casing and tubing without any device at the bottom of the well.
2. Flow through the annular space, with packer and valve at the bottom of the well.
3. Flow through the tubing without chamber at the bottom of the well.

Readers are invited to send questions relating to drilling, producing and transporting operations. These questions will be referred to persons capable of answering authoritatively. The names of those writing for information will be held confidential, initials only being published. This department cannot undertake to answer questions involving royalty or other investments, patents or intricate formulas or questions which should be submitted to consulting engineers, geologists or lawyers.

WHY THEY CALLED IT *Granny Rag*

When grandmother kept a cloth handy for wiping off the furniture and woodwork as occasion demanded (and before the advent of natural gas this was annoyingly often) she unconsciously was enriching the vocabulary of oil. The cloth came to be referred to as a "granny rag." Then when derrick workmen needed a name for the gunnysack or other material used in wiping off oil that dripped from pipe as it was being pulled from a well they called it a granny rag. It later years pipe line men used a sling made of canvas or other strong fabric in applying coatings to pipe to prevent corrosion, and they called that a granny rag too. Both operations commonly are spoken of as "granny ragging."

Holes Caused by Corrosion Let Sand Work Through Strainer Into Well

I am operating here in a very soft sandy formation which makes it necessary to use strainers, made of galvanized wire wrapped around steel pipe. I have a good deal of trouble with these strainers as a result of holes developing in them, due to corrosion. What makes this trouble hard to understand is that there is supposed to be no hydrogen sulfide in these wells. Sand that works through the holes in the strainer stops production in some cases and we have to work over the well. This is expensive and I would like to know if there is any way to stop this corrosion of the strainers.—A. N. E.

Fluids which do not contain hydrogen sulfide may be destructively corrosive, as they evidently are in the case of your wells. It is imperative, of course, where wells are in such a soft sandy formation as you describe, to use strainers to keep more sand than can be handled from entering the well. And it is imperative that the strainer be kept in good condition, for as you yourself say, workover jobs, necessitated by corroded or sand-cut strainers, are expensive.

In a discussion of this subject Walter F. Rogers, of the Gulf Oil Companies, points out that oil-field brine which does not contain hydrogen sulfide may cause large holes to develop in the strainer, with the result that formation sand enters the hole and stops further production. Therefore the strainer should be of corrosion-resistant material.

Strainer design, Mr. Rogers goes on to say, may roughly be divided into two classes, the button class and the wire-wrapped class. The button type usually is composed of brass or bronze buttons pressed into steel pipe. In corrosive fluids galvanic action may result from the contact between the two metals. This action is sometimes so severe that the bimetal contact is corroded away. When this occurs the soft sands of the producing horizon may enter the well bore and stop production.

Wire-wrapped strainers may be subject to the same type of failure if they are composed of dissimilar metals. It is often the case that bronze or brass wire is used to wrap over steel pipe. If a strainer of this design is used in a well producing corrosive fluid it may fail through galvanic action between the wire and the pipe. When this happens the well sands up and must be reworked.

Where the well produces fluid which bears hydrogen sulfide the screen may become clogged and neither sand nor fluid can enter the well.

Where severe corrosion is experienced there are two types of corrosion-resistant strainers which may be used. One of these is composed of nickel wire wrapped over nickel pipe. This type of construction can be used with their nonsulfide or sulfide-bearing brines with almost certainty of freedom from corrosion attack. The cost of such a strainer is rather high and this prevents its more general use. The other of these is composed of galvanized wire wrapped over galvanized pipe. This type of strainer can also be used under either sulfide or nonsulfide conditions. Its corrosion resistance is not equal to that of the nickel construction but its lower cost makes it a satisfactory material to use under many conditions.

Many strainer failures not caused by corrosion occur, Mr. Rogers says. The exterior face of the strainer may become clogged with accumulations from the producing horizon, the strainer may become sand-cut through the use of improper mesh, or producing the well at too high rate of flow, or the strainer may become clogged with drilling mud while making the setting. These difficulties are so important that the next advances might well be not along the line of added corrosion resistance, but rather along the line of improved strainer design.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit problems to Dr. C. K. Francis. Questions should give as much detail as possible. Inquiries must be signed but only the given initials will be printed. The source of questions is considered confidential. Questions requiring discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered in these columns.

Polymerized Gasoline Has a High Blending Value to Octane Number

We would be pleased to have you give us the exact definition of the term "Blending Value" as used in connection with polymer gasoline. Upon what basis are blending values determined? Any information you may care to give us along this line will be appreciated.—C. H. B.

Blending value, as related to motor fuels, has no definite meaning, because it may refer to volatility as described by the distillation test, to specific gravity, or to octane rating. Within the last few years antiknock rating, as expressed in octane numbers, has become the most important unit to be considered when blending gasolines and this is especially true for gasoline produced by polymerization.

The blending octane number may be calculated, according to Garner, Wilkinson and Nash, from the formula:

$$O_B = VO_H + (100-V)\,O_R$$

Where V = per cent by volume of the pure hydrocarbon in a blend with a reference fuel; O_R = blending octane number of pure hydrocarbon; O_H = octane number of the reference fuel; O_B = octane number of the blend.

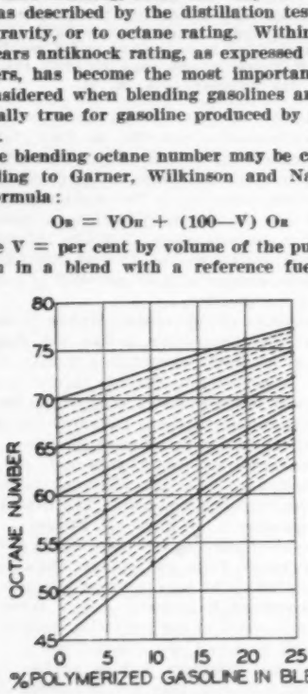

Fig. 1—Octane blending value of polymerized gasoline and straight-run gasolines. Reference Fuels C-8 and A-3

Among the recent articles on polymer gasoline is that of V. N. Ipatieff and Gustav Egloff, Polymer Gasoline Has Higher Blending Value Than Pure Iso-Octane, The Oil and Gas Journal, May 16, 1935, page 31. In Table 17 of this article the octane blending value of polymer gasoline is compared with other liquids having high octane numbers. It is shown that a 5 per cent polymer gasoline blended with a 45 octane number base fuel gives an octane blending value of 125. This is derived by arithmetical calculation for the polymer gasoline when blended with another of lower octane rating and was obtained by first determining the A.S.T.M.-C.F.R. octane rating of the blend and then calculating the blending value from the following equation:

$.05(x) + .95\ (45\ \text{Octane No.}) = \text{Octane rating of blend or, from the data given in Figure 1 of the same article, } .05(x) + .95\ (45\ \text{Octane No.}) =$

$$49\ \text{Octane No.}, x = \frac{49-42.75}{.05} = 125\ \text{Blending Octane number.}$$

There is no standardized method used by the industry for this determination but in most cases the blend of the polymer gasoline is made either with 25 or 50 per cent in reference fuel A-3. Its main purpose is to show that while in general the octane number strength is lower than benzol or iso-octane, in blends it has a value higher than either.

Reference: Garner, Wilkinson and Nash, J. S. Chem. Indust., 51, 265 T., 1932. See C.F.R., Reports for details of reference fuels.

Motor Vehicles Furnish the Greatest Percentage of Total Horsepower

Would it be possible for you to give me a statement of the approximate amount of gasoline horsepower in the United States? I mean the amount of gasoline horsepower developed in automobiles, trucks, buses, tractors, and other machinery powered from gasoline. How does this compare with other sources?—J. W. L.

All motor vehicles of the United States furnish 1,424,980,000 horsepower, which is equivalent to 85 per cent of the total horsepower of the country. The distribution is shown in the table.

DISTRIBUTION OF HORSEPOWER

From—	Horsepower	Per cent
Motor vehicles, total	1,424,980,000	85.20
Pleasure cars	1,261,297,000	75.50
Motorcycles	1,200,000	.....
Trucks, buses, taxis	162,483,000	9.70
Steam railroads	109,331,000	6.56
Agriculture	49,151,000	2.95
Electric central station	43,000,000	2 58
Manufacturing	20,092,000	1.20
Ships	8,896,000	.53
Mines and quarries	8,000,000	.48
Electric railroads	2,550,000	.15
Irrigation and drainage	1,383,000	.08
Commercial aircraft	3,091,000	.19
Work animals not on farms	1,400,000	.08
Total	1,671,874,000	100.00

These figures are based on the calculation by C. R. Daugherty reflecting the conditions for the year 1931, when the total motor vehicle registrations were 25,832,884 as compared with 24,933,403 for 1934.

The total quantity of gasoline consumed in automotive vehicles is equivalent to about 2 gallons per car per day. Assuming that this gasoline is 60 A.P.I. gravity, the available energy per gallon is 127,328 B.t.u., and as one horsepower hour may be 2,545 B.t.u., then 1 gallon of gasoline represents 50 horsepower hour; or 100 horsepower hour per day per car. Whatever unit of time is considered on the basis of the fuel, the horsepower will represent the total available energy. The horsepower shown in the table appears to represent the taxable power of the registrations. The efficiency of the new cars is reported to be about 8 per cent, probably the efficiency of all cars now operating would be approximately 5 per cent.

Reference. Facts and Figures, National Automobile Chamber of Commerce, C. R. Daugherty, page 54.

Solvent Refining Agents Toxic and Physiological Properties—Cresol

This is the fourth of a series of brief articles relating to the substances used in the solvent methods for the purification of lubricating oils. The first appeared in the issue of December 19, 1935.—Editor.

Cresols. There are three cresols, designated ortho, meta and para, the para form being used under the name cresylic acid.

Formula $C_6H_4(CH_3)OH$. The constants given here are for the para cresol. Specific gravity 1.0295; melting point 93° F.; boiling point 394° F. Soluble in cold water to about 2 per cent and 5 per cent in water at the boiling point. Completely soluble in alcohol, ether and glycerine.

The poisoning properties and symptoms of cresol poisoning are similar to phenol; the same precautions in handling it should be observed and the treatment of cases is the same. Phenol was the second subject to be discussed in this series, published January 9, 1936.

Number of Petroleum Products Not Exact and Always Increasing

Is there any list available showing all of the products of crude that are made from crude oil? If so, please send me one.—M. McD.

No list has been prepared showing all of the products that are made from natural gas and petroleum. Since the first product, asphalt, was used some 5,000 years ago for preserving the bodies of human beings and animals, the petroleum products utilized in the arts and commerce have been increasing in number. We have considered over a long period only primary products made by the refiner. Some progress has been made in separating and selling several of the lower hydrocarbons that are of molecular purity; such as propane, butane, pentane and hexane. The vast number of commercial petroleum products include those substances that are made by simply subjecting the primary products, such as gasoline, kerosene, gas oil and lubricating oil, to further purification processes and blending operations. In this way several grades of gasoline or kerosene, etc., may be made and the numerous grades of lubricating oils. The white medicinal oil is nothing more than a very thoroughly purified lubricating oil. When certain modifications are made in the cracking operation it has been found that there is a building up instead of a breakdown of the molecule. One result of this is the formation of substances of antiknock value, high octane number, to be incorporated into a new product, polymerized gasoline.

Another series of petroleum products, which are of recent origin, are the preparations that are used as insecticides. There are two groups of petroleum liquids used for this purpose. The domestic insecticide is made from a light distillate that is not oily or greasy. A large quantity of heavy petroleum oils, gas oil, lubricating and fuel oils, are being used as insecticides in agriculture.

Much progress is now being made in the preparation of pure chemical compounds from petroleum, natural gas and refinery gas. Some of these are the several alcohols, including ethyl or grain alcohol, the secondary and tertiary alcohols, ethers, aldehydes, ketones and many chlorinated compounds. In fact, the entire group of aliphatic compounds may be prepared from petroleum, and in addition, but in lesser quantities, the aromatics. Therefore, it may be said that the petroleum compounds constitute the raw material for the manufacture of all organic compounds.

Oil Industry in Mexico Runs Gamut of More Than 40 Taxes and Charges

By INGENIERO JOAQUIN SANTAELLA

The petroleum industry of Mexico runs the gamut of more than 40 taxes and charges of varying kinds before its products finally reach the consumer.

Direct taxes on the industry are the production, export and the impost on concessions, these three levies yielding approximately 13,000,000 pesos in fiscal funds in 1934. Production taxes for that period were nearly 9,000,000 pesos, export taxes over 2,500,000, while the surface tax, based on the net hectarage under concession as of March 31, 1934, accounted for 2,000,000 pesos more.

In addition to the direct taxes indicated above, there are a multitude of other taxes and charges bearing on the industry which, in the aggregate, amount to approximately 20 per cent of the total tax bill. Among the most important are stamp taxes on all commercial documents, including all bills of sales, contracts, receipts, etc.; customs duties, consular fees and port charges; property taxes; inspection fees, concessions for the use of national property, waters and fees for the installation of telephones, and state and municipal taxes. Also in full effect are the federal income tax, an absentee tax levied on funds remitted abroad and on the net value of products exported, and special commercial taxes on products sold within the country.

The industry's direct and indirect tax bill for 1934, including the gasoline consumption tax of 24,000,000 pesos, paid at the source, was over 47,000,000 pesos, or at the rate of about 1.24 peso per barrel on about 38,174,000 barrels of oil produced.

Production Taxes

Production taxes based on the New York market are levied on all oil exported. Tax on crude oil of specific gravity of 0.93 (Baume 20.38) and of fuel and gas oil of specific gravity of 0.95 (Baume 17.21) is 10 per cent of the posted price for New York bunker C fuel oil on board ship when this is $1.00 U. S. Cy. or less. This increases at the rate of 0.2 per cent for each 5 cents or fraction over $1.00 per barrel, posted price. Rates for fuel oil of other specific gravity are calculated by increasing these 0.82 for each thousandth under 0.95 degrees and decreasing them in the same proportion for each thousandth above 0.95 degrees. The rate for crude oil of 0.96 (Baume 15.68) or more is equal to 65 per cent of the rate for fuel oil of 0.95 degrees.

Rates for crude oil of lower gravities are determined as follows: the valuation of fuel oil of 0.95 specific gravity is increased by 1 peso 90 centavos per cubic meter (0.302 centavos per barrel); and the total is considered as the value of crude oil of 0.93 specific gravity. Other valuations and rates are calculated in the same manner as described above for fuel oil.

Tax Rates

Following are the tax rates applied to gasoline and kerosene, based on New York prices for these products:

Refined gasoline, 2 per cent of value.

Crude gasoline, 4 per cent of value of refined gasoline.

Refined kerosene, 3 per cent of value.

Crude kerosene, 6 per cent of value of refined kerosene.

Rates for lubricants, paraffin and asphalt are fixed, independently of their value. These are: lubricants, 2 pesos 50 centavos per cubic meter; paraffin, 2 pesos per ton; asphalt, 0.50 centavos per ton.

The export tax is at fixed rates in accordance with the following schedule:

	Pesos per cubic meter
Crude of 0.95 specific gravity or less	1.00
Crude of a heavier gravity	0.62
Fuel oil	0.75
Gas oil	1.00
Crude gasoline	2.50
Refined gasoline	1.00
Crude kerosene	0.80
Refined kerosene	0.30
Lubricants	0.75
	per metric ton
Asphalt	0.11
Paraffin	2.00

Mixtures of asphalt with other petroleum products pay the same quota when they contain more than 60 per cent asphalt.

Senor Santaella was formerly chief of the Technical Petroleum Commission of Mexico and of the Mexican National Petroleum Department; former member of the Petroleum Consulting Board and later Chief of the Department of Special Imposts, with jurisdiction over mining and petroleum taxes. Sr. Santaella is a recognized authority on Mexican petroleum and tax legislation.

For October 1935, the following rates were in effect, the amounts corresponding to each product for both production and export taxes:

	Pesos per cubic meter	U. S. Cy. per barrel
Light crude	3.454	0.18
Heavy crude	2.132	0.09
Fuel oil	3.014	0.12
Crude gasoline	5.737	0.25
Refined gasoline	2.619	0.11
Crude kerosene	3.607	0.16
Refined kerosene	1.704	0.08
Lubricants	3.250	0.14
	Pesos per metric ton	U. S. Cy. per met. ton
Paraffin	2.88	0.80
Asphalt	0.61	0.17

It may be noted here that the levies on production, export and gasoline consumption are paid by tax payers having sufficient assets to guarantee payment on the 25th of the month immediately following the month in which they actually become due.

A tax at the rate of 0.20 per hectare, payable in semi-annual installments, is levied on petroleum concessions. This tax applies to all concessions including confirmatory concessions (those covering lands leased or purchased prior to the nationalization of the subsoil in 1917) and to all ordinary concessions issued under the petroleum law of December 26, 1925. States and municipalities are granted a participation in this tax, but under the condition that taxes levied on property will not be based on its petroleum valuation.

The federal income tax and the absentee tax fall especially on prosperous concerns, and consequently are not unduly onerous. But the absentee tax might at any time constitute a heavy burden, since it applies to all monies and products leaving the country that sometimes do not actually constitute profits but which, in reality, are obligations of an enterprise operating with foreign capital. For instance, remittances, such as payments of interest for bonded indebtedness, are burdened by the tax. In practice, most concerns may be exempt from this tax during the period of investment, because in payment of the absentee tax all capital imported in cash or in machinery may be deducted from the capital sent abroad, and during such period any concern may re-invest profits which, therefore, would not appear in its annual statement.

State Taxes

Local political units of the United Mexican States are prohibited from levying direct taxes on the petroleum industry as a condition to their participation in the production, gasoline consumption and concession taxes. Each state and/or municipality, however, may levy taxes on service stations in proportion to similar taxes on other commercial establishments, real property taxes, pavement taxes, registration fees and other imposts falling clearly within the jurisdiction of these political divisions. The municipalities may also collect taxes on automobile license plates. These, too, are limited by the federal gasoline tax since a participation of 1.5 per cent per litre is granted to take the place of taxes previously collected on motor vehicles.

The gasoline consumption tax, while primarily a consumer's tax, may be classed as an indirect burden on the industry, for it has an influence on direct sales and prices. It applies to gasoline produced in the country at the time of withdrawal from refinery and to imported gasoline. A total tax of 8 centavos per litre (8.4 cents U. S. Cy. per gallon) is paid to the federal government. Of this amount 4.5 centavos is retained by the national governmentt and 3.5 centavos is distributed among the states, federal district and territories in which the gasoline is consumed. These allotments are based on the sales made during the month preceding actual distribution of this revenue.

During 1934 a total of 38,174,000 bbls. of oil were produced in Mexico. Of this amount 25,121,000 bbls. were exported and, therefore, subject to production and export taxes; and more than 1,187,000 bbls. of gasoline were sold in the domestic market, subject to the gasoline consumption tax.

Levies Paid

Applying the various fiscal measures designed to provide revenue through taxation, the following direct and indirect levies were paid by the oil industry in 1934:

	Pesos
Production tax	8,915,837.00
Export tax	2,536,218.00
Gasoline consumption tax (a)	24,000,000.00
Surface tax (b)	2,000,000.00
Other taxes, including customs duties and charges, taxes on income, etc., approximately	10,000,000.00
Total	47,452,055.00

(a) Based on consumption figures of 3,000,000 litres, at $0.08 per litre.

(b) Based on net hectarage under concession as of March 31, 1934—10,813,005.0648 hectares.

East and East Central Texas

NEW EAST TEXAS PURCHASES; TRINITY TESTS IN OLD AREAS

By L. E. BREDBERG

DALLAS, Tex., Jan. 20.—There were 62 locations announced in the East Texas field this week and 48 tests were completed, two on the pump, one a dry hole in Gregg County, three swabbers and one completed with gas lift and one flowing by heads.

Another purchase in the field was reported this week. Frank W. Bennett, head of the Bennett Crude Oil Purchasing Co., announced his company had purchased the pipe line system formerly owned by the old Simms Oil Co., also purchasing the V. O. E. Wright system from Gladewater to Big Sandy. Whether or not the Big Sandy Refining Co.'s small refinery at that place was purchased was not related. The line to Big Sandy is a 4-inch carrier connecting with refinery and a loading rack on the Cotton Belt Railroad at that place.

Ruco Oil Co. has purchased the Grady Vaughn lease on the H. Sexton farm in the D. Clark Survey, Rusk County, composed of 20 acres on which there are two producers and permits for two more to be drilled.

Ray Taylor and Joe Presnall have leased Rusk Oil Refining Co. plant at Overton and the Southern Oil Refining Co. plant at Reeds Switch. One of the plants has been shut down by the commission.

Since the increase in crude prices the larger gasoline manufacturers in the field have posted higher tank car prices. Ten cents is asked for gasoline to trucks, including state and federal taxes. Plants were reported getting 5⅛ cents for gasoline eligible for interstate shipment on federal tenders. "Hot" oil has not been reported on the increase in the field since the price increases and is not expected, runs to refineries holding around 43,500 bbls. per day to 26 plants operating intermittently during each week.

Important Report

Daily average deliveries from the field were reported at 13,500 bbls. per day during the week, which is the first time in three years such a report has been made in regard to production and distribution, which shows the healthy condition of the field so far as production is concerned. With an independently owned 30,000-bbls. daily capacity line to be laid in the field by the middle of March or first of April, and that line already having around 22,000 bbls. of oil contracted for per day, there will really be a scramble in the field for oil by all lines.

So far there has been no appreciable increase in drilling in the field following the increase in crude prices, the Railroad Commission holding down the granting of exception permits for wells on small or subdivided tracts or tracts on which sufficient if not too many wells have already been drilled.

Wildcatting

Two wildcat tests were reported, one to be drilled in Red River and one in Smith County. The Red River County test is to be put down by Abercrombie and Harrison on the T. L. McKnight farm in the Robert Hill Survey between 12 and 14 miles north of Clarksville. The test in Smith County is to be drilled by Winona Oil Corp. on the McClung lands in the E. Newberry Survey, 1 mile east of Winona. The crew is already rigging up.

Cauble and Thompson are assembling a drilling block for a Woodbine sand test 4 miles southeast of Wills Point in the Arnold Bundy, Davidson and other surveys 2 miles west of the J. H. Foster No. 2 Broucher dry hole in Van Zandt County.

W. H. Carlin and others are assembling a block of 4,500 acres in the Bowles, Jones, Hann and other surveys centering about 1½ miles west of Rockwall in Rockwall County. Location will probably be announced for the Laufland lands in the Bowles Survey or the Jones lands in the M. B. Jones Survey. A test is to be started on the block early in February.

Shell Petroleum Corp. is expected to drill three Woodbine sand tests on its Buffalo block and structure between Buffalo and Centerville in Leon County. The company already has proven the block for gas and distillate production, with dry holes limiting the area in a couple of directions. About 2,000 acres were dropped on the west side as result of dry holes.

Wood County Test

The Wood County test of Gulf Production Co. on the McCollum lands in the Joseph Simpkins Survey, just south of Alba on the western edge of the county, topped the Pecan Gap chalk at 2,370 feet with a surface elevation of 456 feet which is apparently about normal with dry holes previously drilled in that vicinity. The test is being drilled on a geophysical prospect about 10 miles west and south of a similar geophysical prospect on which the Atlatl Royalty Corp. drilled a dry hole a few months ago.

Clark and Cowden of Dallas are preparing to drill a wildcat 6 miles southeast of Streetman in Freestone County and are moving in materials on the W. E. Milner farm in the H. Awalt Survey.

Peyton Brothers No. 1 Rushing, in the Henry Ford Survey, west of Curry, and near a dry hole drilled last year, in Navarro County, topped the Woodbine sand at 2,821 feet and cored water sand. It will be drilled deeper but looks like a "duster" at this writing.

J. K. Wadley abandoned another test in the Jamestown area of Upshur County, on the Williams lands west of Jamestown. It topped the Georgetown lime at 3,956 feet, the Woodbine sand at 3,748-73 feet and was given up as dry at 3,966 feet. Elevation is 306 feet. This area is northeast of the most northeast end of the East Texas field and a number of dry holes have been drilled around the town.

Long Lake Field

Two more locations have been staked in the Long Lake field by Tide Water Oil Co. and Seaboard Oil Co. One is southeast of the field and one in the Tucker area. One test is in process of completion to the west of the north extension area where oil wells have been the rule instead of gas. However, this test appears as only a gas producer and is being plugged back to shut off bottom-hole water and complete as a gasser. Patton and others are drilling this test on the Focke lands in the James Madden Survey. It is between 3,000 and 4,000 feet west of the nearest producer in the extension area.

Companies continue to lease acreage presumably for Trinity sand exploration in various areas throughout the East and East Central Texas district. Old areas once tested for Woodbine sand production are again being blocked and leased and will no doubt see the drilling of deeper tests in the future. The Rodessa field's Trinity sand production, which has been extended into Cass County in Texas, and the Trinity sand distillate and gas producer in the Cayuga field in northwestern Anderson County have led to renewed activity in leasing.

Group of officials of the Pan American Production Co. at No. 1 Haas & Hierch, West Port Barre field, St. Landry Parish, La. First well drilled by the newly created producing unit of the Pan American Petroleum & Transport Co., and completed a commercial producer

EAST TEXAS COMPLETIONS

Following are the completions of the week in the East Texas field together with their top of sand record and total depth and initial production:

Gregg County

Amerada Petroleum Corp. No. 15 E. Burnside, 3,533-3,562 feet, 64 bbls. per hour.

Arkansas Fuel No. 8-A W. E. Bolton, 3,517-3,526 feet, 17 bbls. in 15 minutes; No. 8-C McKinley, 3,588-3,614 feet, 21 bbls. in 15 minutes; No. 3 Tennery, 3,581-3,593 feet, 15 bbls. in 15 minutes.

Burke Royalty Co. No. 5 Moore, 3,610-3,612 feet, 40 bbls. in 30 minutes. Camp Drilling Co. No. 1 A. A. Castleberry, total depth 3,617 feet, lime; dry and abandoned. Deep Rock No. 6 H. Prichard, 3,501-3,551 feet, 80 bbls. per hour. Eastern Texas Petroleum Co. No. 23 T. J. Dunbar, 3,587-3,610 feet, 20 bbls. in 45 minutes.

Empire Gas & Fuel Co. No. 13 J. T. Jeter, 3,595-3,596 feet, 11 bbls. in 15 minutes. Fair & Thompson No. 7 A. H. Tubbs, 3,554-3,611 feet, lime; swabbing 13 bbls. per hour.

Stanolind Oil & Gas Co No. 8 Floyd Jones, 3,568-3,671 feet, 22 bbls. in 20 minutes. Stanolind-Simms No. 13 H. Key, 3,494-3,588 feet, 26 bbls. in 25

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minutes. Arkansas Fuel No. 29 Hughey Ross, 3,565-3,590 feet, 17 bbls. in 15 minutes. Gulf Production Co. No. 35 A. Spear, 3,594-3,606 feet, 70 bbls. per hour. C. L. McMahon No. 17 Spear-Laird, 3,655-3,678 feet, 38 bbls. in 40 minutes.

Lucey Petroleum Co. No. 6 A. M. Kinsell, 3,644-3,665 feet, 65 bbls. per hour. Sinclair Prairie No. 17-B Akin, 3,527-3,575 feet; 60 bbls. per hour.

Midfield Oil Co. No. 2 E. Benson, 3,777-3,778 feet, 20 bbls. in 30 minutes. J. M. Rusk No. 2-B Crews, 3,591-3,594 feet, 25 bbls. in 30 minutes. Shell Petroleum Co. No. 26-A Laird, 3,517-3,533 feet, 35 bbls. in 30 minutes. Sinclair Prairie No. 18-B A. A. King trustee No. 3, 3,453-3,475 feet, 20 bbls. in 15 minutes. Sun Oil Co. No. 16 G. Reese, 3,684-3,686 feet, 40 bbls. per hour on 2-inch tubing.

Smith County

Big Indian Synd. No. 15 W. O. Wolford, 3,759-3,761 feet, 60 bbls. per hour. Genroe Drilling Co. No. 6 Pace & Bateman, 3,807-3,808 feet, 38 bbls. per hour. Sun Oil Co. No. 28-B H. A. Pace, 3,730-3,731 feet, 20 bbls. per hour. Texas-Gulf Production Co. No. 6 Hodnott & Melton, 3,713-3,714 feet, 20 bbls. in 20 minutes.

Rusk County

Hasting & Dodson No. 3 E. Florey, 3,651-3,652 feet, 25 bbls. per hour by heads. Merco Production Co. No. 7 Futch-Cooper, 3,663-3,664 feet, 40 bbls. per hour. Stewart Oil Co. No. 8 M. Holt, 3,534-3,568 feet, pumping 18 bbls. in three hours. Dearing & Son No. 1-A J. W. McDavid, 3,541-3,560 feet, 30 bbls. per hour by heads.

Sinclair Prairie No. 3 Kersh, 3,640-3,643 feet, swabbing 10 bbls. per hour. Sneed and others No. 3 E. Rollins, 3,682-3,683 feet, 40 bbls. in 30 minutes. Sun Oil Co. No. 16 A. Lee, 3,620-3,621 feet, 20 bbls. in 20 minutes through 5-inch casing. Texas Co. No. 18 Bank of Overton, 3,698-3,728 feet, 26 bbls. 20 minutes. Texokana Oil Co. No. 3 Kersh, 3,637-3,638 feet, 20 bbls. per hour through 2-inch tubing.

Gant-Garvin - Weggner No. 8 Hale, 3,556-3,565 feet, 28 bbls. per hour on gas lift. Humble Oil & Refining Co. No. 4-B V. Turner, 3,724-3,741 feet, 40 bbls. per hour on 2-inch choke. Mabee, Conso. No. 8-B Maxwell, 3,577-3,670 feet, swabbing 20 bbls. in three hours. Marathon Oil Co. No. 10 D. W. Griffin, 3,618-3,617 feet, 20 bbls. per hour, swabbing. Perot Oil Corp. No. 1 Howett, 3,545-3,651 feet, pumping 18 bbls. daily.

Upshur County

H. W. Clarkston No. 5 O'Byrne, 3,615-3,625 feet, 55 bbls. per hour. Day & Co. No. 5 B. Victory, 3,675-3,677 feet, 20 bbls. in 40 minutes on half-inch choke. Bert Fields No. 1 E. C. Johnston, 3,688-3,692 feet, 35 bbls. per hour through 2-inch tubing, salt water sand 3,703-05 feet.

Margay Oil Co. No. 11 Victory, 3,628-3,642 feet, 36 bbls. in 15 minutes. A. O. Phillips No. 10 B. Victory, 2,634-3,635 feet, 30 bbls. per hour. Southland-United E. & W., No. 28 O'Byrne, 3,699-3,707 feet, 21 bbls. 30 minutes. Sun Oil Co. No. 12-B J. T. Loden, 3,670-3,687 feet, 53 bbls. per hour. Twin Oil Co. No. 5 C. J. Mackey, 3,715-3,716 feet, 32 bbls. per hour through 2-inch tubing.

Miscellaneous—Upshur County

J. K. Wadley No. 1 Williams, dry and abandoned at 3,966 feet; elevation, 306 feet; top Georgetown lime, 3,956 feet; top Woodbine sand, 3,748-73 feet. West of Jamestown.

Wilcox Discovery in Billings Pool

Oklahoma oil interest shifted to the northern part of the state again Monday when the first Wilcox sand to be found in the Billings area of Noble County was topped in the Phillips Petroleum Co. and others No. 1 McCaughtry, NW NE NE section 21-23-2w. Eight inches of saturated Wilcox sand was recovered in cores at 4,240-43 feet, total depth, and samples of sand above also showed good saturation. Pipe was being set at 4,235 feet. The well is on acreage owned by Phillips Petroleum Co., Shell Petroleum Corp. and Midco Oil Corp. Tide Water Oil Co. is moving in material for its No. 1 O'Neil, SE SW NE section 16-23-2w, on a 1,640-acre block north of the Wilcox discovery zone and on the western flank of the old pool.

An Oklahoma wildcat that had held considerable promise seemed doomed as a failure. It was the Mid-Continent Petroleum Corp. No. 1 Butler, SW NW SW section 7-3-1, in the Pauls Valley area of Garvin County, which had hard Arbuckle lime at 5,015 feet and was shut down for orders.

In the Fitts pool of Pontotoc County, the Hunton lime zone was extended one-half mile north by H. L. Blackstock and others No. 1 Daniels, SE SE SW section 21-2-7, which flowed 702 bbls. of oil gross in 2 hours and 17 minutes when opening after acidizing, and then produced 300 bbls. net in the next three hours. It topped Hunton lime at 3,485 feet, drilled to 4,478 feet in McLish, encountered water, and plugged back to Hunton.

Phillip Boyle, Oklahoma City geologist, reports that he has moved out rotary and is moving in with standard tools to complete his No. 1 Crist, SW SE SW section 3-5-4, in Pontotoc County.

Michigan Oil Rights and Tax Sales

MUSKEGON, Mich., Jan. 20.—State leases on about 40,000 acres of Michigan oil lands were in question last week when Circuit Judge Fred W. George, of Port Huron, ruled the state did not have the right to reserve oil and mineral rights on lands sold for taxes. The decision was given in a suit brought by Nick Krench, of Detroit, purchaser of tax delinquent lands on which Strange & Fortney, Michigan operators, several months ago brought in a 10,000-bbl. Traverse producer on a lease purchased at a state auction covering a tract in Horton Township, Ogemaw County.

Krench claimed about 150,000 bbls. of oil valued at $150,000 had been produced from the well and challenged the state's authority to grant the oil rights to other than the purchaser of the land.

Constitutionality of Act 280 of the Public Acts of Michigan of 1909 was questioned in the suit which will be carried to the Supreme Court.

Conservation department officials said the state is receiving rental and royalties from 117 leases on homestead lands. Since 1927 the state has received about $360,000 from the sale of mineral rights on such lands, from fees, rentals and royalties.

Rocky Mountain Runs

Production estimates for week ended January 18:

WYOMING

	Bbls.
Salt Creek	16,850
Big Muddy	1,530
Badger Basin	40
Black Mountain	70
Byron	60
Dallas Derby	540
Dutton Creek	80
Elk Basin	750
Ferris	30
Frannie	300
Garland	950
Grass Creek	2,300
Hamilton dome	1,020
Hudson	220
LaBarge	1,250
Lance Creek	2,130
Lost Soldier	1,170
Mule Creek	Shut in
Midway	50
Notches	Shut in
Oregon Basin	4,000
Osage	670
Pilot Butte	20
Rex Lake	Shut in
Rock River	1,840
South Casper	400
Poison Spider	190
Teapot	20
Waugh dome	100
Total Wyoming	36,640

MONTANA

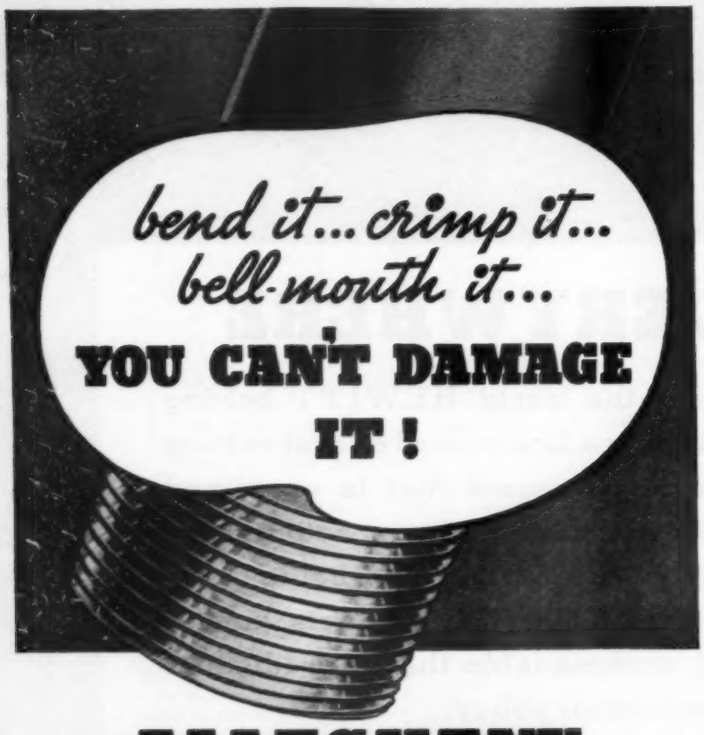
	Bbls.
Buckley-Border	140
Cat Creek	720
Cut Bank	7,100
Kevin-Sunburst	3,700
Lake Basin	50
Pondera	1,120
Total Montana	12,830

COLORADO

	Bbls.
Florence	150
Fort Collins and Wellington	300
Iles dome	2,720
Moffat	420
Orchard	60
Rangely	70
Tow Creek	170
Total Colorado	3,980

NEW MEXICO

	Bbls.
Artesia	650
Cooper	8,760
Eunice	12,630
Hobbs	26,820
Hogback	200
Hospah	Shut in
Jal	3,740
Lea	1,010
Maljamar	1,690
Monument	1,640
Rattlesnake	770
Table Mesa	80
Total New Mexico	57,990
Total Rocky Mountain region	111,440



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North Louisiana, Arkansas

RODESSA EXTENDED 2 MILES TO THE EAST OF PRODUCTION

By J. R. CRUMPTON

SHREVEPORT, La., Jan. 20.—The highlight in development in the North Louisiana district during the past week was the extension of the Rodessa field practically 2 miles east of previous production. The new gusher is on the northeast trend toward the town of Ida in Caddo Parish.

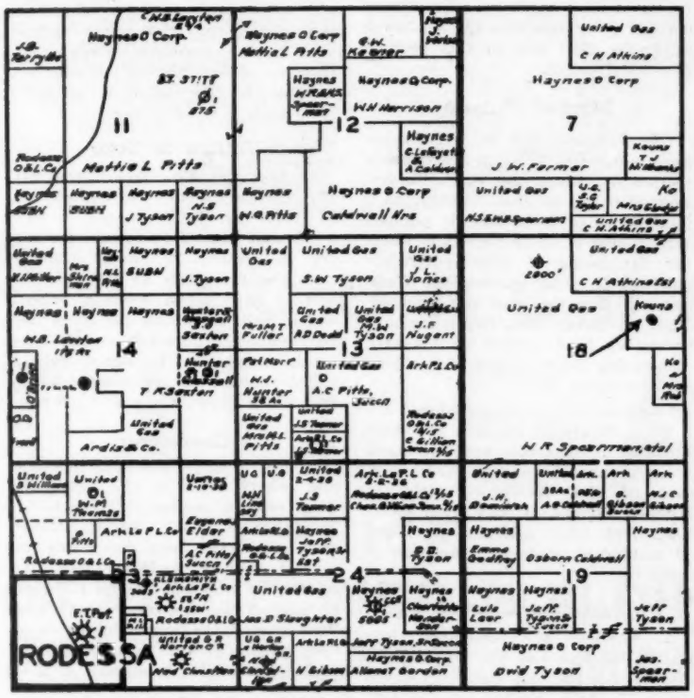
Bartex Pipe Line Co. No. 1 Norton estate, 660 feet north and west of SE cor. NE section 18-23-15, topped saturated lime at 5,998 feet, and with the hole bottomed at 6,029 feet flowed 30 bbls. per hour through one-sixteenth inch choke. The well definitely proves up more than 2 miles in the northeast direction and bears out predictions that the field will be long and narrow following the fault line to the south.

In addition to the above completion, Rodessa turned in seven other good wells, all of which were in the proven lines. Arkansas-Louisiana Gas Co. No. 6 Rodessa Oil & Land Co., section 23-23-16, flowed 81 bbls. per hour through one-half inch tubing choke from a total depth of 5,995 feet. Top of saturation was contacted at 5,985 feet, tubing pressure registered 150 pounds and casing pressure 550 pounds. The well is the first oil producer within the Rodessa townsite, an area which has heretofore believed to be within the gas producing area. R. W. Norton No. 2 Tyson heirs, 688 feet south and 1,980 feet west of NE cor. section 13-23-16, on the northeast trend of the field, flowed 65 bbls. per hour through one-half inch choke on tubing from total depth of 6,021 feet. Top of saturated lime was logged at 5,975 feet, pressure on tubing registered 750 pounds and on casing 900 pounds.

Rodessa Completions

Other completions in Rodessa follow: Pelican Oil & Gasoline Co. No. 7 Sexton, section 14-23-16, 65 bbls. per hour on one-half inch tubing choke from total depth of 6,021 feet. Top of saturation at 5,975 feet, tubing pressure 700 pounds, casing pressure 900 pounds. United Gas Public Service Co. No. 3 Bremer unit, section 22-23-16, flowed 56 bbls. per hour through one-half inch tubing choke from total depth of 6,005 feet. Top of saturated lime was logged at 5,966 feet, tubing pressure registered 850 pounds and casing pressure 900 pounds. The same company's No. 1 Brewer, 2,000 feet north and 720 feet east of SW cor. section 21-23-16, on the southwest trend, made 65 bbls. per hour through one-half inch tubing choke from total depth of 5,980 feet. Top of saturation logged at 5,937 feet, casing pressure 150 pounds, tubing pressure 275 pounds. United Gas Public Service Co. No. 1 V. I. Miller, section 14-23-16, had an initial flow of 60 bbls. per hour through one-half inch tubing choke from total depth of 6,008 feet. Top of saturated lime was contacted at 6,002 feet, casing pressure registered 500 pounds and tubing pressure 300 pounds. The same company's No. 6 Rodessa Oil & Land Co., section 15-23-16, flowed 305 bbls. in 12 hours on one-half inch tubing choke from 5,990 feet. Top of saturation 5,978 feet, tubing pressure 125 pounds, casing pressure 375 pounds.

On the northeast flank of the Sligo field in Bossier Parish, Producers Oil & Gas Co. No. 1 Pettitt, section 17-17-11, has all the earmarks of being a big gasser from the Oolitic lime horizon of the Glen Rose in the upper Trinity. Seven-inch casing was set at 5,174 feet over approximately 130 feet of Oolitic lime gas. The well may turn out to be an oiler but at this writing it looks like a gas well. However, this area, which is looked upon as a potential oil field from the Trinity series, will get a big boost if the new well is only a gasser.



Other Wildcats

Other wildcats drilling to the Glen Rose in the North Louisiana district are making fair progress. In the Sugar Creek field of Claiborne Parish, United Gas Public Service Co., in cooperation with Standard Oil Co. of Louisiana and Triangle Drilling, is reaming to bottom at 5,006 feet. Ryan Oil Corp. No. 1 F. A. Gladney, section 27-20-7, about midway between the Sugar Creek gas field and the Homer field, is drilling in anhydrites and shale at 4,776 feet. A good gas show reported from this well cannot be confirmed at this writing.

In the recently uncovered gas area near the town of Simmsbore, Lincoln Parish, Lide, Gree & Marr No. 1 Davis Brothers Lumber Co., section 12-16-5w, topped Wilcox at 575 feet, Nacatoch at 2,395 feet, top of hard chalk rock at 2,528 feet. Ten-inch casing has been set at 2,586 feet with the total depth at 2,606 feet. Texas Seaboard Oil Co. No. 1 F. E. McGee, section 3-6-6w, topped Arkadelphia at 1,980 feet, set 10¾-inch at 2,299 feet with the hole bottomed at 2,301 feet. Both of the latter wells are in Bienville Parish southwest of the discovery gasser on the Grambling structure. In the Cotton Valley field of Webster Parish, Ohio Oil Co. No. 1 R. L. Holloway, section 23-21-10, is drilling at 4,400 feet. A shallow test in the southwestern part of Webster Parish, J. L. Edwards and others' No. 1 Hooper, section 8-17-9, is drilling at 1,225 feet.

ARKANSAS

Drilling in the South Arkansas area has taken an upward trend since the first of the year and the southwest counties seem to be in for a good year from a wildcatting standpoint. One dry hole was reported from this district during the past week, but it has stood as temporarily abandoned for several months. In Arkansas County, Grand Prairie Development Co. No. 2 Fischer, section 6-6-4w, was abandoned at 1,780 feet.

In the Magnolia area of Columbia County, Magale & Elam No. 1 L. Garrett, section 13-17-20, did not make a drill stem test as reported coming up last week. The test cored sandy lime at 4,000 feet, and the log book shows following formations cored before reaching that depth. Cored coarse porous gray sand, probably salt water, 3,569-72 feet; hard shale from 3,572-74 feet; gray sand, probably salt water from 3,574-77 feet; hard tight shale 3,577-93 feet; limey shale and shales 3,793-96 feet; brown shale from 3,596-99 feet; limey shale and shells 3,599-3,600 feet. A shallow test in Clarke County, Boris Triponoff No. 1 Gibbons, section 27-8-18, claim 2 feet of sand from 555-57 feet and is arranging to set casing to test.

In Lafayette County, Earl F. Fox No. 2 Coleman Brothers, section 30-16-24, is coring in hard gray sand at 2,711 feet. Southeast of the old Bradley field, same county, Joe Modisette No. 1 Red River Lumber Co., section 21-19-24, has set 12½-inch surface casing on new hole at 148 feet and is drilling at 1,751 feet. King Oil Corp. No. 1 G. W. Crank, section 19-16-25, Columbia County, has not resumed drilling after running Schlumberger test at 4,000 feet.

Rockwell Development Co. No. 2 W. A. Smith, section 13-11n-3e, Poinsett County, arranging to take core at 1,912 feet in Nacatoch. West of the town of Camden in Ouachita County, W. B. Street, trustee No. 1 Rath & Cartier, section 35-13-18, is standing 100 feet in fluid with about 50 per cent of it salt water from a total depth of 1,407 feet.

Crude Production

Estimated daily average production for the week ending January 18 follows:

NORTH LOUISIANA

Bellevue	450
Caddo light	4,150
Caddo heavy	2,305
Converse	1,225
Cotton Valley	200
De Soto and Red River	1,320
Elm Grove	360
Haynesville	3,370
Holly	150
Homer	2,575
Pleasant Hill	165
Rodessa	28,650
Sarepta-Carterville	515
Urania	2,630
Zwolle	1,325
Total	49,390

SOUTH ARKANSAS

Champagnolle	2,793
El Dorado	2,150
Lisbon	280
Miller County	1,270
Nevada	330
Smackover light	2,200
Smackover heavy	17,635
Stephens	625
Urbana	2,240
Total	30,020

West and North Texas

By L. E. BREDBERG

NEW TEST FOR ODESSA POOL; SHALLOWER PAY IN LUEDERS

FORT WORTH, Tex., Jan. 20.—There were 16 locations staked in West Texas during the week, only one for a wildcat test. The Odessa pool, recently uncovered 3 miles west of the northwest corner of Odessa in Ector County, is to get its second test. Stanolind Oil & Gas Co. is making location in the NE cor. section 24, Block 43, Township 2s, T.&P. Survey, for a south offset to the York and Harper and Barnsdall discovery in section 13. That well is still cleaning out and testing after plugging back from total depth of 4,342 feet to 4,300 feet and shooting.

In Presidio County, an extreme wildcat is being drilled by J. F. Sadler on the J. R. Bledsoe ranch in section 15, Block 354, G.C.&S.F. Survey, 2½ miles north of Presidio. Elevation is 2,732 feet. It stands shut down at 922 feet. This is one of the first tests in this county in several years.

Wildcat Abandonments

Five wildcats were abandoned this week and three outpost or semiwildcats were given up as dry holes defining as many different areas. Wahlenmaier Petroleum Corp. No. 2 Kloh, in the SW cor. section 33, Block 44, Township 3s, T.&P. Survey, about a mile north of the nearest production in the Waddell pool near the north line of Crane County, defined the limits of that pool on that side when abandoned at a total depth of 3,690 feet after striking a hole full of sulfur water. Elevation is 2,794 feet.

Link and Joiner No. 1 McIntyre, in section 31, Block 352, W. N. Mitchell Survey, a rank wildcat drilling in Brewster County, was temporarily abandoned at a total depth of 2,150 feet.

Fisher County reported two abandonments, one an outpost test. The other was an absolute wildcat drilled by Tide Water Oil Co. and others on the Newsom ranch in the John Rodman Survey, 4 miles southeast of Roby. It topped the Noodle Creek lime at 3,280 feet and was ordered plugged at total depth of 3,975 feet. Elevation is 1,997 feet. The other dry hole was drilled by Callahan, O'Donald and others on the Huddlestone lands in section 206, Block 1, B.B.B.&C. Survey. It was abandoned at total depth of 3,162 feet after failing to make a producer in the regular Fisher County pay. Elevation is 1,817 feet.

Grisham and Hunter abandoned a test south of Post in a wildcat area. It was drilled on the Sullivan lands in section 3, S. E. Harper Survey. Total depth was 3,007 feet. Elevation is 2,493 feet.

Another Pay for Lueders

A new well completed in the shallow pool 3 miles northwest of Lueders in northeast Jones County opened another pay, a shallower one, when completed this week. Peckham and Danciger Oil & Refining Co. No. 1 City of Stamford, section 204, B.B. B.&C. Survey, marking about a half mile northern extension to the pool, logged the Hope sand at 1,922-37 feet and was completed at the latter depth. The regular pay, in which other producers and the pool discovery are producing, is the King sand. The well was given a 210-bbl. potential, pumping and flowing. It still has chances of making a producer in the deeper sand, but the owners decided to complete in the shallower sand, the first test in this pool to produce from it.

Mitchell Outpost

Gib Sawtelle and W. W. Gruber have completed No. 1 Z. Morrison in section 34, Block 29, T.&P. Survey, Township 1n, Mitchell County, at a total depth of 2,810 feet. It pumped only 10 bbls. of oil and 4 bbls. of water per day, being of little importance although it either extends the Westbrook pool to the west or proves another producing area. Dry holes have previously been drilled in this area eliminating much chances for a pool of importance.

Lockhart and others abandoned No. 1 W. C. Berry in an area in which a couple of dry holes and one small producer have been completed northeast of the Westbrook field in Mitchell County. It was given up at 1,802 feet after acidizing in hopes of making a producer. Elevation is 2,232 feet.

Important Location

A location of importance was staked by Sun Oil Co. in Winkler County, in the SE cor. section 3, Block 77, P.S.L. Survey, on the Jenkins (Keystone) lands, about 1 mile north of Richardson No. 1 Jenkins in section 13, which recently extended the Keystone field 2 miles to the north. The Sun test may help prove a connecting link between the Keystone and Scarborough area farther northwest and will be closely watched on account of this possibility.

Grisham and Hunter abandoned No. 1 T. P. Land Trust in section 27, Block 57, Township 2, T.&P. Survey, Reeves County. Total depth is 3,250 feet and elevation is 3,020 feet. This test attracted attention when it logged a good oil showing, but shooting failed to make a commercial producer and plugging orders were issued. It is an extreme wildcat.

A. E. Lynch and others abandoned No. 1 Sherk in section 25, Block 2, M.K.&T. Survey, Upton County, eliminating the possibility of the McCamey-Hurdle field going farther northeast as this test is about 2 miles in that direction from the nearest producer. Total depth is 3,010 feet. Elevation is 3,108 feet.

Crockett Wildcat

B. C. Mann, E. M. Wahlenmaier and John W. Kieringer, all of San Angelo, are to drill a wildcat test on the J. W. Robbins lands in section 2, Block B, G.C.&S.F. Survey, Crockett County, 3½ miles southeast of the recently completed discovery by Ray on Cordova Union Lands in the southeast corner of Upton County about 5 miles southeast of McCamey. This will be an interesting test as it may prove an extension of importance or define the newly opened area to the southeast. Charles D. Hagerty of San Angelo has contract to sink the test which is to go to 2,500 feet.

Failure in Ector

Crafton Oil Co. No. 1 Cowden, SW cor. of section 19, Block 43, Township 2s, T.&P. Survey, 1 mile north and east of two small producers in section 25, Ector County, struck sulfur water at 4,345-58 feet and is shut down waiting orders, which will no doubt be given for abandonment. This defines this area to the northeast. It logged only a slight showing of oil from 4,218-25 feet and a show of gas at 4,160 feet.

Deepening

Moore Brothers, Loffland Brothers and others No. 1 L. S. McDowell, deep test in section 22, Block 34, Township 2s, T.&P. Survey, Glasscock, which has been shut down for several months at 10,115 feet, but which has produced around 175 bbls. or more of oil from the Pennsylvania lime, is ready to deepen in search of more saturated lime in hope of making a commercial producer.

Wildcat for Yoakum County

Lon Stogner, independent, of Fort Worth, is to drill a wildcat on a block of acreage held in fee by Mrs. David Googins. Elliott Roosevelt, son-in-law of Mrs. Googins, is to have an interest in the wildcat. It is in section 215, Block D, John H. Gibson Survey, north of the county seat, Plains, and about 15 miles north of the Davidson and others' discovery on the Bennett lands in section 678, John H. Gibson Survey. This will be the first wildcat drilled in the county since that strike was made several months ago at total depth of 5,090 feet, where it was shut down on account of litigation. It is expected to be tested within two or three weeks and will be watched for developments as it is an extreme wildcat.

Probable Test

Magnolia Petroleum Co. has a block of 23 sections in Block 97, H.&T.C. Survey, and Block 5, H.& G.N. Survey, in northwest Scurry County and on the Garza and Kent County lines, on a structure lying southwest of Fullerville. It expires on January 27, but a test may be spudded before that time and leases given an extension.

Ward Extension

The Grand Falls extension of Dobbs Oil Co. on the Gulf-Bray lands in section 14, Block 5, H.&T.C. Survey, 1 mile east of the nearest production, has been completed for a 156-bbl. well at total depth of 2,563 feet after cleaning out following 50-quart shot from 2,538-63 feet. It opens more territory, offset drilling being forced, although to date no locations have been staked.

Prorating Cowden Field

At the Railroad Commission hearing at Austin operators in the Cowden field in northern Ector County, in which the Stanolind Oil & Gas Co. is the main producer, asked for an increase of 1,000 bbls. per day in the allowable, and recommended a change in the manner of calculating the decline in pressures. Engineers of the Stanolind Oil & Gas Co. presented the plan worked out by the field's engineering association. To obviate the open flow tests now taken by the commission, a formula for pressure declines was worked out as the yardstick for declining potentials. Where wells cannot be gauged by pressure bombs they would be declined in ratio to the average field decline. The formula reads in part as follows: "Individual potentials of each well shall be adjusted by multiplying the old potential by the fraction new field average pressure (a) over old field average pressure (b) times the fraction individual well pressure (c) over new field average pressure (a), 50 per cent of the value of b being deducted from each of the factors a, b and c."

There were no protests to the plan and the commission is taking it under advisement. Graphs were also presented to show underground conditions were better when wells had a higher flow, therefore the request for increase in allowable.

Ranger and Wichita Falls

M. M. Garrett and others of Wichita Falls have assembled 12,000 acres in a block in the Polk County School lands and another block of 3,000 acres adjoining this block on the north taken for Gibson and Jennings, Inc. of Ardmore, Okla.

L. A. Long of Fort Worth has assembled a 1,200-acre block centering in Block 13, Hunt County School Lands, 3 miles south of Gainesville and 2 miles west of the Martin discovery in Cooke County and proposes drilling an Ellenberger lime test. Mr. Long has production in Young and

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other counties in the Wichita Falls district.

Magnolia Petroleum Co., Amerada Petroleum Corp., Texas Co., Sun Oil Co. and others are checkerboarding and buying other leases in Cooke County. More geophysical and seismograph crews, both company and independent, are working Cooke and Grayson Counties and acreage is being purchased in Grayson County by individuals and companies. The Delaware Bend area in northern Cooke County is undergoing a thorough lease campaign with the companies mentioned participating.

Hamilton County Block

Hamilton County has been getting a large amount of leasing with independents and companies alike taking an interest, one semimajor company getting ready to spud a deep test near Pottsville with others proposed in other areas. Walter Gant of Ardmore has assembled 15,000 acres in a block centering in the George Hodge Survey, 10 miles east of Hamilton on which a 4,500-foot cable tool test is to be drilled. Tide Water Oil Co.'s block adjoins this block on the north.

Deep Test for Moran Pool

S. T. Dudley and B. A. Hoft of Richmond, Va., propose drilling three tests on a block of 1,000 acres in and around the old Moran pool in southeastern Shackelford County. One test is to go to the Ellenberger lime. One Ellenberger test is drilling in eastern Shackelford County several miles north of the Moran pool and another to the northeast, both being important tests as an offset test to the latter one would probably have made an Ellenberger producer if the hole had not required junking and the starting of the second test.

Locations and Completions

There were 39 locations staked in the Wichita Falls district this week and 40 tests completed, 22 proving producers.

Production in the district averaged 62,400 bbls. per day during the week.

Panhandle District

There were nine locations staked in the Panhandle district this week with 10 completions, oil or gas producers.

Two locations for extreme wildcat tests were announced, one to be drilled in Armstrong County and one in Oldham County. Franklin and Saling of Oklahoma have assembled a block of 19,500 acres including part of Block B-4, H.&G.N. Survey, in the former county and are to start a 5,000-foot test by April 1. This block is between Canyon and Clarendon.

Heydrick and others of Wichita Falls are to drill the wildcat in Oldham County, to go to 4,000 feet and be located on a block of 15,000 acres in the Matador Land & Cattle Co. holdings. It has been tentatively staked in the northeast corner of League 280, Capital Syndicate Survey.

The daily average of the Panhandle district during the week ran 58,400 bbls. or slightly above the allowable of 57,800 bbls., an increase of nearly 2,800 bbls. per day over the previous week.

WICHITA FALLS (North Texas) COMPLETIONS

Archer County

Bonner Co. and Kelleher No. 1 L. F. Wilson estate, total depth 1,600 feet, dry and abandoned. L. T. Burns No. 1 Texas Land & Mortgage Co., total depth 1,500 feet, dry and abandoned; No. 13 Turberville, top pay 1,522½ feet, total depth 1,525 feet, initial production 140 bbls. per day; No. 14 Turberville, top pay 1,512½ feet, total depth 1,516 feet, initial production 105 bbls. per day; No. 11-E Turberville, top pay 1,333 feet, total depth 1,341 feet, initial production 30 bbls. per day.

Burns and King No. 1 J. S. Matlock, total depth 693 feet, dry and abandoned. Fain-McGaha Oil Corp. No. 2-F McCrory, total depth 1,633 feet, dry and abandoned. J. C. Hamer No. 1 W. S. Ikard, total depth 937 feet, dry and abandoned. Kriss and Cockburn No. 2 J. L. Anderson, top pay 1,407 feet, total depth 1,422½ feet, initial production 12 bbls. per day. E. S. McLaughlin No. 2-A Mrs. B. Garrett, total depth 729 feet, dry and abandoned. Perkins and Cullum No. 19 C. L. Abercrombie, top pay 993 feet, total depth 1,015 feet, initial production 35 bbls. per day. Texas Co. No. 1 Bert Lowry, total depth 1,587 feet, dry and abandoned.

Baylor County

Bell Oil & Gas Co. No. 1 Mills, total depth 1,514 feet, dry and abandoned. Evans and Collins No. 1 Mrs. G. Longley, total depth 1,850 feet, dry and abandoned.

Cooke County

Merrick Drilling Co. No. 18 Knabe, top pay 775 feet, total depth 805 feet, initial production 27 bbls. per day; No. 6 Stelzer, top pay 818 feet, total depth 861 feet, initial production 5 bbls. per day. Mudge Oil Co. No. 3-A Johnson, top pay 1,086 feet, total depth 1,140 feet, initial production 40 bbls. per day; No. 3-B R. W. Trew, top pay 681 feet, total depth 788 feet, initial production 12 bbls. per day. Murray Investment Co. No. 3 Rhomer, top pay 39 feet, total depth 942 feet, initial production 35 bbls. per day. Pace Petroleum Co. No. 4 R. E. Aldridge, total depth 1,183 feet, dry and abandoned.

Jack County

John T. Cox and others No. 1 L. W. Scott, total depth 785 feet, dry and abandoned. Singer-Steele and Metal Co. No. 1 M. E. Hester, top pay 2,898 feet, total depth 3,041 feet, initial production 5,500,000 feet of gas per day.

Montague County

Bridwell Oil Co. No. 1-A McGaughey, total depth 1,924 feet, dry and abandoned. Roy I. Carter No. 17 R. W. Cunningham, top pay 918 feet, total depth 925 feet, initial production 20 bbls. per day.

Throckmorton County

Bearman Oil Co. No. 5 Kirk Ledbetter, top pay 777 feet, total depth 799 feet, initial production 15 bbls. per day; No. 6 Kirk Ledbetter, top pay 773 feet, total depth 780 feet, initial production 10 bbls. per day; No. 9 Tuton, top pay 742 feet, total depth 751 feet, initial production 10 bbls. per day.

Wichita County

Golding and Cochran No. 16-C Waggoner Brothers, top pay 1,295 feet, total depth 1,328 feet, initial production 6 bbls. of oil and 6 bbls. of water per day. Magnolia Petroleum Co. No. 50 R. S. Allen, top pay 1,564 feet, total depth 1,572 feet, initial production 10 bbls. per day. H. L. Rugley No. 6 Waggoner estate, top pay 1,579 feet, total depth 1,596½ feet, initial production 217 bbls. per day.

Young County

A. L. Cato No. 1 Dora Logan, total depth 1,090 feet, dry and abandoned. B. C. Gilmore No. 1 Jennings, total depth 755 feet, dry and abandoned. Gorsuch Oil Co. No. 17 Matthews, top pay 705 feet, total depth 725 feet, initial production 15 bbls. per day. King Royalty Co. No. 18 C. W. Johnson, total depth 595 feet, dry and abandoned. Nash and Windfohr No. 4 E. Atwell, total depth 4,023 feet, dry and abandoned. E. H. Sharp No. 1 Belknap Coal Co., total depth 501 feet, dry and abandoned. Texas Co. No. 4 Belknap Coal Co., top pay 654 feet, total depth 668 feet, initial production 65 bbls. per day. Underwood and Campbell No. 14-C R. Campbell, top pay 868 feet, total depth 891 feet, initial production 65 bbls. per day; No. 15-C R. Campbell, top pay 855 feet, total depth 892 feet, initial production 50 bbls. per day; No. 16-C R. Campbell, total depth 939 feet, dry and abandoned.

WEST TEXAS COMPLETIONS

Andrews County

Humble Oil & Refining Co. No. 6 Means, top pay 4,346 feet, total depth 4,546 feet, shot, initial production 731 bbls.

Brewster County

Link and Joiner No. 1 McIntyre, temporarily abandoned 2,150 feet.

Crane County

Wahlenmaier Petroleum Corp. No. 2 Kloh, dry and abandoned 3,690 feet, elevation 2,794 feet.

Fisher County

Callahan and others No. 1 Huddleston, dry and abandoned 3,162 feet, elevation 1,817 feet. General Crude Oil Co. No. 2 Young, top pay 3,108 feet, total depth 3,109 feet, acidized, initial production 85 bbls. oil and 100 bbls. water per day, pumping. Tide Water Oil Co. and Merry Brothers & Perini No. 2 Howard, top pay 3,645 feet, total depth 3,668 feet, acidized twice, initial production 360 bbls. pumping; same company's No. 1 Newman, dry and abandoned 3,975 feet, elevation 1,997 feet.

Garza County

Grisham and Hunter No. 1 Sullivan, dry and abandoned 3,007 feet, elevation 2,493 feet.

Howard County

Sinclair Prairie Oil Co. No. 28 Dodge, top pay 2,560 feet, total depth 2,828 feet, shot, initial production 660 bbls. White and others No. 7 Read, top pay 2,606 feet, total depth 2,755 feet, initial production 720 bbls. pumping. Holman No. 2 Kloh and others, top pay 2,324 feet, total depth 2,332 feet, acidized, initial production 658 bbls., pumping.

Jones County

Peckham and Danciger Oil & Refining Co. No. 1 City of Stamford, top pay 1,922 feet, total depth 1,937 feet, initial production 210 bbls a day, pumping.

Reeves County

Grisham and Hunter No. 1 T. P. Land Trust, dry and abandoned 3,250 feet, elevation 3,020 feet.

Mitchell County

Sawtelle and Gruber No. 1 Z Morrison, top pay 2,720 feet, total depth 2,810 feet, plugged back to 2,800 feet, acidized, initial production 10 bbls. oil and 4 bbls. water per day, pumping, elevation 2,152 feet. Lockhart and others' No. 1 W. C. Berry, temporarily abandoned 1,802 feet, acidized, elevation 2,232 feet.

Pecos County

Phil Brown No. 1 Tippett, top pay 1,377 feet, total depth 1,428 feet, initial production 31 bbls. per hour. Richards No. 4 Courtney, junked hole 1,100 feet, elevation 2,967 feet.

Upton County

Texas Pacific Coal & Oil Co. No. 7-E Lane, top pay 2,279 feet, total depth 2,280 feet, acidized, initial production 131 bbls. oil and 56 bbls. water per day. Duffey and others No. 1 McClintic, top pay 2,800 feet, total depth 3,056 feet, shot, initial production 531 bbls. Lynch and others No. 1 Sherk, dry and abandoned 3,010 feet, elevation 2,108 feet.

Ward County

Simms Oil Co. No. 1 Mason, total depth 2,500 feet, shot, initial production 440 bbls. day. California Co. No. 3 Walling & Costly, top pay 2,322 feet, total depth 2,530 feet, shot, initial production 693 bbls. Humble Oil & Refining Co. No. 1 Roach, top pay 2,560 feet, total depth 2,593 feet, shot, initial production 500 bbls. oil and 15 bbls. water. Empire Gas & Fuel Co. No. 1 McDonald, top pay 2,275 feet, total depth 2,513 feet, shot, initial production 864 bbls.

Winkler County

Westbrook No. 5 Daugherty, top pay 2,818 feet, total depth 2,995 feet, shot, initial production 640 bbls. day. Texas Pacific Coal & Oil Co. No. 8 Daugherty, top pay 2,785 feet, total depth 2,945 feet, shot, initial production 1,082 feet; same company's No. 7 Daugherty, top pay 2,812 feet, total depth 2,995 feet, shot, initial production 590 bbls. Mid-Continent Petroleum Co. No. 8-A Howe, top pay 2,872 feet, total depth 2,988 feet, initial production 779 bbls. Sayre Oil Co. No. 3-A Howe, top pay 2,806 feet, total depth 2,971 feet, shot, initial production 1,683 bbls.

PANHANDLE COMPLETIONS

Gray County

Dixon Creek Oil & Gas Co. No. 1-B Casselbury, total depth 3,227 feet, plugged back to 3,213 feet, shot, initial production 126 bbls. pumping. Kewanee Oil & Gas Co. No. 4-C Morse, top pay 2,560 feet, total depth 2,624 feet, shot, initial production 338 bbls. pumping; No. 18 Smith Rest, top pay 3,165 feet, total depth 3,250 feet, shot, initial production 521 bbls. pumping. Shell Petroleum Corp. No. 2 Haggard, top pay 3,240 feet, total depth 3,304 feet, shot, initial production 604 bbls. pumping. Sinclair Prairie Oil Co. No. 1 Neal, top pay 3,275 feet, total depth 3,291 feet, shot, initial production 287 bbls. pumping.

Hutchinson County

Burnett No. 1 Ingerton, total depth 2,710 feet, shot, initial production 12,250,000 feet gas. Stanolind Oil & Gas Co. No. 6-A Watkins, top pay 2,970 feet, total depth 3,048 feet, shot, initial production 251 bbls. pumping.

Wheeler County

Barnes and Green No. 1 George, top pay 1,898 feet, total depth 1,950 feet, initial production 48,400,000 feet gas. Smith Brothers No. 3 Johnson, top pay 2,440 feet, total depth 2,529 feet, initial production 2,230 bbls.

Rocky Mountain Area

ONLY FAIR SIZED OIL WELLS IN LATE ROCKY MOUNTAIN CROP

By
T. R. INGRAM

DENVER, Colo., Jan. 20.—The Texas Co. No. 1 Mattern, C NW SW section 20-19-37 in the Hobbs area, Lea County, N. Mex., was completed. It was acidized with 8,000 gallons at 3,840-3,965 feet and produced 336 bbls. of oil in 24 hours and 559,000 feet of gas, producing through 2-inch choke on tubing.

In the Eunice pool, Lea County, Continental Oil Co. No. 5-A-17 Meyer C SE SW section 17-21-36 was shot with 60 quarts at 3,897-3,955 feet and then acidized. It produced 102 bbls. of oil the first 24 hours through tubing and 3,000,000 feet of gas, and was completed.

Penrose & Rowan No. 1 Will Cary, C NW SW section 22-22-37 produced 215 bbls. of oil in 24 hours flowing naturally through tubing and 500,000 feet of gas. It is an outpost well and as yet has no pipe line connection. It was completed.

Humble Oil & Refining Co. No. 1 Hunter, C NW NW section 24-24-36 drilled to a total depth of 3,757 feet, was plugged back to 3,536 feet and acidized with 4,000 gallons at 3,650-3,737 feet. It made a small show of oil and 2,000,000 feet of gas, and was completed.

In the Jal area Continental Oil Co. No. 1-B-13 Sholes, C SW NW section 15-25-36, an old well plugged back to 3,277 feet produced 400 bbls. of oil and 4,500 bbls. of water in 24 hours, flowing naturally and was completed. It had not produced from the deep pay, total depth 3,570 feet, in 18 months.

The Texas Co. No. 1 Cagle, C NW SW section 15-36-37 was completed as a gasser. It made 34,483,000 feet of gas from pay at 3,020-3,154 feet.

Monument District

In the Monument district, Lea County, Skelly Oil Co. No. 1 State Monument C SE SE section 13-19-36 was acidized with 14,000 gallons at 4,055-4,093 feet. It produced 310 bbls. through tubing in 24 hours, cut 10 per cent. The well was completed.

In Curry County Schoonmaker and others abandoned No. 1 Hart, in section 3-2-31, after drilling 100 feet of hole.

Danube Oil Corp. has plugged and abandoned its No. 1 Will Wallace, 2,490 feet from S and 250 feet from E lines of section 12-9-32, Quay County, at 1,218 feet.

In Eddy County, Flynn, Welch & Yates No. 72 State SW NW NE section 10-19-28, Artesia pool, is a 25 bbl. initial pumper, completed at 2,105-15 feet, which sand was shot with 80 quarts.

Royalty Contract

One location was made in Colorado for a test in Cheyenne County by Brittell Oil Co., a local concern. There were no completions in Colorado. A test on Ramsey block in Elbert County is through the Dakota.

Secretary Ickes, in awarding Salt Creek royalty contract, expressed belief substantially higher prices may be realized in 1937. Osage field goes on gravity basis in quoting crude prices. Wyoming had no completions.

A small gas well was completed in Big Horn County, Montana. Cut Bank had five completions and three new locations, the best being Montana Power Gas Co. No. 1 Benish, which swabbed 214 bbls. initial. Kevin-Sunburst practically at a standstill.

Southern Union Gas Co. completed a 4,000,000-foot gasser in the Kutz Canon district in northwestern New Mexico. Danube Drilling Co. No. 1 Wallace, in Quay County, was abandoned.

One new operation is drilling in Washington County, Utah.

NEW MEXICO

Eunice Area

General Crude Oil Co. No. 1 State, C NW SW sec. 32-21-36.
T.D. 3,974 ft.; swabbed 40 bbls. of oil and 14 bbls. of water per day.

Texas Co. No. 1 J. M. Dean, C SE SW sec. 28-22-36.
T.D. 3,810 ft.; acidized and shot; swabbed 27 bbls. in 20 hrs.; reacidized.

Gypsy Oil Co. No. 2 Orcutt, C SW SW sec. 5-21-36.
T.D. 3,895 ft.; flowed 55 bbls. in 8 hrs.

Humble O. & R. Co. No. 2 Adkins, C SW SW sec. 10-21-36.
T.D. 3,890 ft.; drill pipe stuck; well flowed 40 bbls. oil and 250,000 ft. gas; fishing.

Continental Oil Co. No. 8-C-20 State, C NW SW sec. 20-21-36.
T.D. 3,968 ft.; flowed 75 bbls. oil and 30,000,000 ft. of gas. Ran packer on tubing.

Gypsy Oil Co. No. 2 North Bell-State, C SE NE sec. 6-21-36.
T.D. 3,846 ft.; drill pipe stuck.

Gypsy Oil Co. No. 7 Bell-Ramsay-State, C SW NW sec. 4-21-36.
Drlg. 3,525 ft.

Tide Water Oil Co. No. 1 State, C NW SE sec. 16-21-36.
Drlg. 1,220 ft.

Empire Gas & Fuel Co. No. 1 S. E. Felton, C NE NW sec. 28-21-36.
Drlg. 3,645 ft.

Amerada Pet. Corp. No. 2 Houston, C NE NE sec. 7-21-36.
Drlg. 2,700 ft.

Shell Pet. Corp. and Devonian Oil Co. No. 4 State, C NE NE sec. 20-21-36.
Drlg. 3,370 ft.

Humble Oil & Ref. Co. No. 7 State B, C NE SE sec. 29-21-36.
T.D. 885 ft.; shut down for water.

Gypsy Oil Co. No. 1 A. L. Christmas, C SE SE sec. 27-22-36.
Rigging up rotary.

Empire Gas & Fuel Co. No. 3 State D, C NE NE sec. 32-21-36.
Drlg. 2,980 ft.

Atlantic Oil Prod. Co. No. 3 State H, C NW NE sec. 5-21-36.
Drlg. 3,315 ft.

Devonian Oil Co. No. 2 State-Heasley, C NW SE sec. 5-21-36.
Drlg. 1,700 ft.

Humble Oil & Ref. Co. No. 3 Adkins, C NE SW sec. 10-21-36.
Rig.

Gypsy Oil Co. No. 1 Janda B, C NW SE sec. 32-21-36.
Rigging up rotary.

Ohio Oil Co. No. 1 State Maxwell, C NE NW sec. 16-22-36.
T.D. 3,886 ft.; acidized and shot; flowed 190 bbls. in 24 hrs.

Ohio Oil Co. No. 4 State McDonald, C SE SE sec. 16-22-36.
Rigging up rotary.

Barnsdall Oil Co. et al No. 1 Hardy, C SE NE sec. 29-21-37.
Drlg. 1,245 ft.

Continental Oil Co. No. 1-B-4 Meyer, C SE SW section 4-21-36.
Rigging up rotary.

Continental Oil Co. No. 2-B-4 Meyer, SW SW SE sec. 4-21-36.
Set 103-4-in. casing at 311 ft.

Continental Oil Co. No. 3-B-4 Meyer, SE SE NE sec. 4-21-36.
Drlg. 1,120 ft.

Continental Oil Co. No. 4-B-4 Meyer, C NE SW sec. 4-21-36.
Rigging up rotary.

Continental Oil Co. No. 1-B-28 Lockhart, C NW NW sec. 28-21-36.
Set 10¾-in. casing 305 ft.

Continental Oil Co. No. 2-B-28 Lockhart, C SW NW sec. 28-21-36.
Set 10-in. casing 312 ft.

Amerada Petroleum Corp. No. 2 Houston, C NE NE sec. 7-21-36.
Drlg. 2,701 ft.

Gypsy Oil Co. No. 4 Orcutt, C NE NW sec. 5-21-36.
Building rig.

Gypsy Oil Co. No. 5 Orcutt, C SW SE sec. 5-21-36.
Building rig.

Gypsy Oil Co. No. 1 East Bell-State, C NW NW sec. 15-21-36.
Cellar and pits.

Empire Gas & Fuel Co. No. 4 State C, C SE SW sec. 16-21-36.
Rigging up rotary.

Getty Oil Co. No. 1 State C, C SE NE sec. 16-21-36.
Rig.

Skelly Oil Co. No. 1 King B, C SW SE sec. 32-22-37.
Location.

Hobbs Area

Continental Oil Co. No. 1-D-19 State, C NW SW sec. 19-19-37.
Set 10¾-in. casing at 260 ft.

Continental Oil Co. No. 1-A-6 Britt, C SW SW sec. 6-20-37.
Rigging up rotary.

Barnsdall Oil Co. No. 3 Cooper, C NW NW sec. 7-20-37.
Drlg. 460 ft.

Oilwell Drlg. Co. et al No. 1 Morris, SW SW SE sec. 21-18-38.
Rig.

Gypsy Oil Co. No. 1 Steve Taylor, C SE NE sec. 24-18-38 (wildcat).
T.D. 4,883 ft.; plugged back to 4,596 ft.; will rig up standard tools.

Tide Water Oil Co. No. 1 State, 2,310 ft. from N, 330 ft. from E lines, sec. 14-18-37.
T.D. 4,368 ft.; plugged back and perforated pipe at 3,345-65 ft.; swabbed 19 bbls. in 24 hrs.

Shell Pet. Corp. No. 1 State E, C W half SE SE sec. 14-18-37.
T.D. 4,368 ft.; plugged back to 3,860 ft.; perforated casing at 3,345-65 ft.; swabbed 19 bbls. in 24 hrs.

Texas Co. No. 1 State C, C SE SW sec. 19-19-37.
Drlg. 250 ft.

Gypsy Oil Co. No. 3 Culp, C SE NW sec. 19-19-37.
Rigging up rotary.

Amerada Pet. Corp. No. 1 State K, C SE NW sec. 29-19-37.
Location.

Cooper Area

Skelly Oil Co. No. 1 Harrison, C NW SW sec. 5-23-37.
T.D. 3,794 ft.; plugged back to 3,762 ft.; shot with 870 qts. at 3,490-3,762 ft.; flowed two 25-bbl. heads and "died." Cleaning out at 3,683 ft., no oil showing.

Gypsy Oil Co. No. 1 Lemunion, C NE NE sec. 28-23-37.
T.D. at 539 ft.; abandoned.

Gypsy Oil Co. No. 2 Cooper, C NW SE sec. 14-24-36.
T.D. 3,698 ft.; sulfur water; plugged back to 3,694 ft.; shot with 300 qts.; cleaning out.

Gypsy Oil Co. No. 2 Cooper, C NW SE sec. 23-24-36.
T.D. 3,616 ft.; showed 1,500,000 ft. of gas; shut in.

Continental Oil Co. No. 2-A-15 Vaughan, 1,980 ft. E and 660 ft. S lines sec. 15-24-36.
Location.

Skelly Oil Co. No. 1 Simms, C SW NE sec. 4-23-37.
T.D. 2,817 ft.; shut down for repairs.

General Crude Oil Co. No. 1 State F, C SW SW sec. 2-24-36.
Location.

Monument Area

Shell Petroleum Corp. No. 1 State C, C NE NE sec. 24-19-36.
T.D. 4,069 ft.; acidized with 20,000 gallons; swabbed and flowed 210 bbls. of oil in 24 hrs. Will pump.

Skelly Oil Co. No. 1 State D, C SE SE sec. 1-20-36.
Pay at 3,834-38 ft.; T.D. 3,890 ft.; tubing to test.

Amerada Pet. Corp. No. 1 Weir, C SW SW sec. 35-19-36.
Drlg. 3,240 ft.

Republic Production Co. No. 2 Selby & Mavesty, C NE SW sec. 35-19-36.
T.D. 3,537 ft.; shut down for water.

Amerada Pet. Corp. No. 2 State D, C SW NW sec. 1-20-36.
Set 9⅝-in. casing at 3,525 ft.

Texas Co. No. 2 State E, C NW SW sec. 1-20-36.
T.D. 2,597 ft; set 7-in. casing.

Amerada Pet. Corp. No. 1 State J, C SE SE sec. 2-20-36.
Drlg. 3,395 ft.

Amerada Pet. Corp. No. 1 State I, C NE NW sec. 2-20-36.
Drlg. 3,863 ft. and flowing 395 bbls. oil per day; first oil at 3,819 ft.

Gypsy Oil Co. No. 1 Graham-State, C NW SE sec. 24-19-36.
Drlg. 2,910 ft.

Sun Oil Co. No. 4 Weir, C NW SE sec. 35-19-36.
Drlg. 1,477 ft.

Shell Pet. Corp. No. 1 Weir A, C NW SW sec. 25-19-36.
Location.

Shell Pet. Corp. No. 2 State C, C NE NE sec. 24-19-36.
Rigging up rotary.

Amerada Pet. Corp. No. 1 Weir A, C NW SW sec. 35-19-36.
Location.

Amerada Pet. Corp. No. 1 Phillips, NE NE NE sec. 1-20-36.
Location.

Gypsy Oil Co. No. 2 Graham-State, C NE SE sec. 2-20-36.
Rigging up rotary.

Jal Area

Harry Leonard No. 1-B Justice, SW NW NW sec. 20-25-37.
T.D. 3,501 ft.; plugged back to 2,970 ft. and shut down.

J. G. Hammond, Inc., No. 2 Sholes, NW ¼ sec. 13-25-36.
Deepened from 3,258 ft. to 3,357 ft.; flowing 18 bbls. of oil and 4,500 bbls. of water per day; testing.

Eddy County

Tex Patillo No. 2 Thompson, 300 ft. from N and E lines of sec. 1-20-28.
Cleaning out at 270 ft.

R. D. Compton No. 7 Brainard, 200 ft. from S and 1,060 ft. from E lines of sec. 5-18-27.
T.D. 1,112 ft.; underreaming 8¼-in. csg.

Emperor Oil Co. No. 2 Puckett, C W½ NW NE sec. 24-17-31.
T.D. 3,498 ft.; 1,700 ft. of oil in hole. Set 7-in. casing.

Barnsdall Oil Co. No. 3 Dodd, C SE NE sec. 22-17-29.
Drlg. 3,120 ft. (correction).

Fred Brainerd No. 1 Featherstone, CEL SW SW sec. 36-16s-28e.
T.D. 1,580 ft.; shut down.

Etz Bros. No. 1 State, C SE SW sec. 16-17s-30e.
T.D. 3,320 ft. in lime, estimated at 150 bbls. a day and 1,000,000 ft. of gas per day; will acidize.

T. J. Haley et al No. 1 Rose, C NE NE sec. 28-24-37.
T.D. 1,000 ft.; shut down.

Flynn, Welch & Yates No. 72 State, C NW SW NE sec. 10-19-28.
T.D. 2,139 ft.; shot with 80 quarts.

D. & B. Oil Co. No. 1 Jenkins, C NW SW NW sec. 20-17-30.
Drlg. 1,540 ft.

Chaves County

Tannehill No. 2 Campbell, C NE SE sec. 1-11-25.
Rigging up rotary.

Lea County

Vierson & Brown No. 1 Robbins, C NW SE sec. 14-11-32.
T.D. 4,137 ft.; set 7-in. casing 3,680 ft. Drilled plug, but could not exhaust sulfur water.

INTERNATIONAL PETROLEUM EXPOSITION

TULSA May 16-23, 1936

Knowing the world-wide importance of the far reaching improvements and advancement made during the past two years, and recalling the great practical and educational value of its previous expositions, the world leaders in the petroleum industry are preparing to attend the Ninth International Petroleum Exposition when it opens in Tulsa in May.

Executives, engineers, superintendents, purchasing agents and other key men in all branches of the petroleum industry, are planning to attend. Manufacturers and distributors of equipment, material and supplies are assembling their greatest exhibition. Societies, Associations, Bureaus and Departments are planning exhibits, demonstrations and meetings.

On May 16th the world's greatest industrial exposition will open its doors to the largest attendance in its history.

Phone, wire or write for complete information, to—

WM. B. WAY, General Manager

Phone 6-2171 **Tulsa, Okla., U. S. A.**

The World's Fair of the Oil Industry

NORTHWEST NEW MEXICO

Bernalillo County

Norine Realty Co., Inc., No. 1 Gallegas grant, SE SW NW sec. 19-11n-4e.
Drlg. 700 ft. in shale; show carbon dioxide gas.

Harding County

Khasy et al No. 1 De Baca, C sec. 19-20n-31e.
Running 8¼-in. at 847 ft.; 10-in. at 250 ft. (first report).

McKinley County

Seward et al No. 1 State, NE SE NE sec. 2-19n-9w.
S.D. 460 ft. for approval of bond; 6⅝-in. at 418 ft.
Forth & Hickerson No. 2 Santa Fe, NE NW NE sec. 29-20-9w.
Drlg. 285 ft. in shale.
Montrose Oil & Gas Co. No. 1 State, NE NE sec. 28-20n-9w.
T.D. 570 ft.; missed shallow sand; may plug.
S. Dysart et al No. 1 Bouton, E NW NE sec. 14-4n-10w.
Old well drilled deeper; resumed at 1,365 ft.

Quay County

Danube Drilling Co. No. 1 Will Wallace, NE NE SE section 12-9n-32, was abandoned at 1,218 feet. It had water at 970-1,015 feet and a small show of oil at 1,120-45 feet.

Quay County Dev. Co. No. 1 Wallace, SW SW SE sec. 19-9n-33e.
S.D. 816 ft.; rainbows at 814 ft.; show of salt water at 775 ft.

Rio Arriba County

El Vado Structure Properties Co., Ltd., No. 1 Tierra Amarilla grant, NE sec. 26-3s-1e (unsurveyed).

San Juan County

Southern Union Gas Co. No. 4 Government, C NW NE section 14-28n-11w, Kutz Canon district, was completed at 1,940 feet, in sand, for 4,000,000 feet of gas from sand at 1,780-1,940 feet. The 6¼-inch is at 1,789 feet and the elevation is 3,741 feet.

Jack Amenda No. 3, SW NW SW sec. 25-30n-12w.
Drlg. 871 ft. in sand; show oil at 870-71 ft.; 6⅝-in. at 666 ft.; 5 3/16-in. at 786 ft.
Jack Amenda No. 4 fee, NW NE SW sec. 25-30n-12w.
Drlg. 50 ft. (first report).
J. F. Cross et al No. 1 Wilson, SW SW SE sec. 17-30-11w.
S.D. 810 ft.
Continental Oil Co. No. 49 Rattlesnake, SW NE NE sec. 2-29n-19w.
Drlg. 745 ft.; some oil at 720-730 ft. in sand.
Cross & Poole No. 1 Aztec, sec. 1-30-11w.
Making water shutoff at 740 ft.
Nick Spatter No. 1 fee, C NE SW, sec. 32-31-11w.
Running 6⅝-in. at 1,780 ft.

Torrance County

42 Pet. Co. No. 1 Greenfield, C NW SW sec. 17-9-8e.
Drlg. below 1,300 ft.; oil show at 1,268 ft.
Bruce Frazier No. 1 Fraier, SE sec. 12-2n-31e.
Drlg. 1,210 ft. in granite wash; water at 882-86 ft.

COLORADO

Adams County

Glenridge Oil Corp. No. 1 Hills, SE SE SE sec. 27-3s-64.
T.D. 4,190 ft.; cmtd. back to 200 ft. and drlg. out cmt. at 4,100 ft.
Riddle Pet Co. No. 1 Baxter, C SW sec. 2-3s-6w.
S.D. 700 ft. for drill pipe.

Archuleta County

Wm. E. Hughes Est. No. 4 fee (unsurveyed), 400 ft. E of No. 2 fee, sec. 24-33n-2e.
Resuming at 122 ft.
Oil City Pet. Co. No. 1-A Garnett, NW NE NW sec. 25-33n-2e.
S.D. 1,515 ft.; top Dakota series at 1,415 ft.
Oil City Pet. Co. and Archuleta O. & G. Co. No. 1 Rath, 220 ft. N of S line, 220 ft. W of E line, Lot 4, sec. 24-33n-2e.
Ready to spud.
K. L. Kendrick No. 1 Crowley (unsurveyed), sec. 2-32-1e.
Drlg. 430 ft.; sulfur. wtr. in Dakota; Muddy dry.

Baca County

Robb, Morgan & Gross No. 1, NE NE NE sec. 24-32s-48w.
Building rotary rig.

Boulder County

Leslie R. Steele et al No. 1 Maxwell, SW NE NW sec. 24-1n-71e.
S.D. 2,420 ft.

Cheyenne County

Brittle Oil Co. No. 1 Sipe, W½ sec. 26-12s-47.
Cellar and sump; (first report).

Elbert County

C. E. Lambert No. 1 Union Pacific, C sec. 13-8s-57w.
Tools out; drlg. 5,625 ft.

Fremont County

Waterville Oil Co. No. 1 State, SE SE NW sec. 16-18s-69w.
T.D. 2,965 ft.; fishing for bit; show of oil at 2,960 ft.; 5 3/16-in. at 2,815 ft.

Jackson County

Colorado Oil Ref. Co. No. 1 North Park Coal, NW NW sec. 18-9n-78.
T.D. 1,805 ft.; U.R. 12½-in. at 1,500 ft.
Continental Oil Co. No. 3 Hoyle, SW NW NE sec. 34-9n-78.
Making 30-day test; av. 35 bbls. of oil and 10,000,000 ft. of gas per day from second Dakota at 5,079-5,100 ft.

Jefferson County

Rainbow Oil Co. No. 1 Johnson, NE sec. 30-4s-68.
Moving in material.
Ruby Hill O. & G. Co. No. 1 Braden, SE cor. sec. 24-4n-69.
T.D. 4,385 ft.; fishing for pipe.

La Plata County

McGarr Pet. Co. No. 1 Pinton Mesa, CSL NE NE sec. 34-35n-12w.
S.D. 1,300 ft. for 10-in.

Larimer County

California Co. No. 1 State, SE SW NE sec. 6-11n-68w.
Drlg. below 972 ft.

Las Animas County

Mountain States Oil Corp. No. 1 Nickola, C NE NE SE sec. 10-34-62.
Tools recovered; making new hole at 1,773 ft.; 10 ft. in Greenhorn lime.

Lincoln County

Consolidated Smelting & Metals Co. No. 1 Hancock, NE NE sec. 7-17s-52.
T.D. 1,780 ft.; derrick rebuilt; fishing for tools.

Moffat County

Ohio Oil No. 1 Robertson, C SW SW sec. 3-6n-92w.
Location.
Texas Co. No. 7 Knowlton, NE cor. Lot 8, sec. 10-4n-91w.
T.D. 3,956 ft.; fishing for 3-in. D.S.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NE sec. 21-26n-17w.
T.D. 3,705 ft.; fishing for tools.

Morgan County

Swisher et al No. 1 Lunt, 92 ft. W of E line and 360 ft. N of S line, sec. 3-4n-60.
Drlg. 1,060 ft. in new hole; started at 950 ft. to straighten.

Park County

South Park Oil Co. No. 1 State, SE SE SW sec. 16-11s-75w.
T.D. 3,730 ft.; recmtd. hole.
South Park Oil Co. No. 1 Lebert, NE NE NW sec. 21-11s-75w.
Cellar.

Prowers County

Trojan O. & G. Co. No. 1 Lotus Oil, NW NE NE sec. 15-23-4n.
T.D. 5,890 ft.; reconditioning 5,227 ft.

Routt County

Mid-Colo Pet. Co. No. 1 Omholt, NE SE SE sec. 29-4n-87w.
S.D. 2,860 ft.; crew sick.

WYOMING

Secretary of the Interior Ickes has announced the closing of a contract with White Eagle Oil Corp. and Sinclair-Wyoming Oil Co. for royalty oil from government land in Salt Creek for 1936 at a premium of 2 cents per barrel over the highest field price of same grade of crude in Oklahoma, Kansas or Wyoming, whichever was the highest. The companies submitted a joint bid of 3 cents bonus on a three-year contract. Secretary Ickes decided it would not be in the public interest to dispose of the oil at the figure named for a three-year period and invited proposals for one- or two-year periods. These resulted in a single proposal from the two companies. The price in 1935 was a premium of 5 cents per barrel and in 1934, it was 22¼ cents. In explaining the lower price at which the contract was signed he said it was reasonable to believe stabilized conditions at the end of 1936 and the reduction of supplies now held in storage by private parties will enable the government to dispose of its royalty oil at a substantially higher price during 1937. Approximately 11,000,000 bbls. of Salt Creek oil is in storage at Clayton, Wyo., and during 1936 it is planned by Stanolind Crude Oil Purchasing Co. to begin moving this crude East through the old Sinclair pipe line from the field to Freeport, Mo.

Albany County

California Co. No. 3 Hoist, 1,650 ft. W of E line and 970 ft. N of S line, sec. 13-17n-77w.
T.D. 1,230 ft.; repairing boilers.

Big Horn County

J. W. Bales No. 1 Parker, C SW SW sec. 23-4-89.
S.D. 690 ft. for pipe.
Peter Evanoff et al No. 1 McAllister, Lot 40, NW NE SE sec. 3-55n-97w.
S.D. 2,290 ft. for csg.; est. 3,000,000 to 4,000,000 ft. of gas 2,270-90 ft.; H.F.W.
Kinney-Coastal Oil Co. No. 3 Government, SW NW NE sec. 24-56n-98w.
T.D. 4,260 ft.; drlg. on iron 400 ft. off bottom; oil sat. in Tensleep at 4,245-60 ft.
W. S. Gilbert No. 1 Zaring, SE SE SE sec. 35-52n-93w.
T.D. 1,143 ft.; W.O.C.; 6⅝-in. at 998 ft.
Ohio Oil Co. No. 4 Byron Union, SW SW NE sec. 22-56-97.
Drlg. 4,311 ft. in shale.
Ohio Oil Co. No. 1 Lindsay, SW SW NE sec. 23-56-97w.
Drlg. 2,919 ft.
Montana-Wyoming Oil Co. No. 1 Allen, 270 ft. from N line, 936 ft. from E line, Lot 52 (SE NW SE) sec. 32-56n-97w.
Drlg. 3,690 ft.
Peay Oil Co. No. 1 Denio, Tract 43-C, sec. 15-55n-97w.
T.D. 3,800 ft.; U.R. 8¼-in. to bottom.
J. H. Shaffer No. 1 Keachie, C SW SW sec. 5-49-61.
T.D. 1,350 ft.; sidetracking tools at 1,266 ft.
W. O. Taylor et al No. 1 Hoskins, Lot 5 (SE SE) sec. 25-56n-97w.
T.D. 5,275 ft.; drlg. out cmt. at 4,150 ft.; after cmtng. back 1,400 ft.

Carbon County

Ohio Oil Co. and California Co. No. 2 State, C SW NW sec. 36-21n-79w.
T.D. 5,910 ft.; recmtd. 22 ft. below top of first Sundance (5,474 ft.) to test that horizon.
Ohio Oil Co. and California Co. No. 1 Union Pacific, Acct. J, NE SW NW sec. 25-21-79w.
Drlg. 4,987 ft. in Morrison shale.
Ohio Oil Co. No. 8 Harrison & Cooper, CWL W ½ SW sec. 35-20n-78w.
T.D. 2,965 ft.; pulled 4½-in.; drill pipe stopped at 2,875 ft.
Ohio Oil Co. No. 3 H. & C., NW NW SW sec. 35-20n-78w.
R.U. to deepen old well from Dakota at 2,770-82 ft., to Sundance.
General Pet. Corp. No. 1 Whitford, SW SE SE sec. 24-20-84.
Coring at 6,218 ft. in Morrison.
Shirley-Wyoming Oil Co. No. 1 Government, NW NE sec. 2-26n-80w.
S.D. 1,350 ft.; wtr. in top of Sundance at 1,310-12 ft.
Union Oil Co. of Calif. and Mutual Oil Synd. No. 1 Union Pacific, 1,890 ft. from E line and 1,320 ft. from S line, sec. 1-18-78w.
Drlg. 4,231 ft.

Converse County

John Ackard No. 1 Daniels, SW SW SE sec. 17-32-71.
S.D. 4,004 ft.

Hot Springs County

California Exploration Co. No. 2 Government, NW SW NW sec. 4-44-96.
T.D. 4,246 ft.; recmtd. 8⅝-in. at 3,880 ft.; R.U. for pump test.
Ohio Oil Co. No. 73 Mill Iron Cattle Co., NE SW SE sec. 19-46n-98w.
Location.
Stanolind O. & G. Co. No. 20 State-Ridgely, SE NE SE sec. 19-46n-98w.
T.D. 1,287 ft.; cmtd. 10¾-in. at 1,125 ft.

Lincoln County

Senrab Oil Corp. No. 3 Government, CSL SE NW sec. 10-26n-113w.
Recmtd. 5 3/16-in. at 1,012 ft.

Natrona County

Empire State Oil Co. No. 15, NW SE NE sec. 11-33n-83w.
R.U. and ready to spud.

Niobrara County

Black Hills Ref. Co. No. 1 Wyrick, SW NE NE sec. 28-36n-64w.
Location.
Black Hills Ref. Co. No. 1 Mills Est., C SW NW sec. 27-36n-64w.
Location.
J. H. Huber Co. No. 1 Jones, NE SE NW sec. 6-25n-65w.
T.D. 4,096 ft.; P.B. to 4,032 ft.; running 2-in. tubing and R.U. for pump test.
Ohio Oil Co. No. 6 Converse Sheep, 610 ft. from E line and 680 ft. from S line, SW SE sec. 32-36n-65w.
Drlg. 1,854 ft.
Ohio Oil Co. No. 7 Converse Sheep, C NW SE sec. 32-36n-65w.
Drlg. 3,242 ft. in shale.
Ohio Oil Co. No. 5 Converse Sheep, C SE SW sec. 32-36n-65w.
Rig up.
S. & H. Dev. Co. No. 1-A Olinger, SE NE NW sec. 1-36-63.
T.D. 1,674 ft.; R.U. to pull and reset 5 3/16-in. at 1,650 ft.; to shut off Dakota wtr. and test show in Lakota.

Sweetwater County

Wilmington Oil Co. No. 1 fee, NW NW NW sec. 18-26-98w.
Made 50 ft. of new hole to 3,165 ft. and S.D. due to frozen wtr. supply.

Uinta County

Druscilla Connell et al No. 5 Government, SW NW NW sec. 24-15n-118w.
S.D. 1,070 ft.
Intermountain Pet. Corp. of Utah No. 1 Union Pacific-Haynes, SW NW SW sec. 24-19n-118w.
T.D. 1,571 ft.; U.R. 5 3/16-in. at 1,490 ft. for W.S.O.
W. D. Marshall No. 1 Government, NW SW SE sec. 12-15n-118w.
Drlg. 1,109 ft.

Washakie County

Ariton & Doyle No. 1 Government, SW SW SE sec. 29-48-91w.
Drlg. 1,012 ft.
Wyoming O. & R. Co. No. 2 Government, SW SW SW sec. 31-48-90.
Drlg. 1,413 ft.

Weston County

Members of the Osage Oil Producers Association have agreed to follow the Mid-Continent gravity basis in their sales to small refiners supplied from the field. Heretofore the field has had a regularly posted price per barrel.

Osage production in December was 19,807 bbls. and deliveries to refiners amounted to 12,700 bbls.

Conway Oil Corp. No. 1 Government, C SE NW sec. 7-41-60.
S.D. 2,087 ft.
Beaver Creek Oil Synd. No. 1 State, C NE NE sec. 23-44-63.
Spudded and shut down.
Des Moines-Osage Oil Co. No. 12 Ost. C NE NE sec. 25-46n-64w.
Set surface pipe and S.D.
Henry Egert No. 2, SW NE NE sec. 8-46n-63w.
S.D. 180 ft.
H. D. Wiltse No. 8, CNL NW NE sec. 17-46n-63w.
Drlg. 180 ft.; (cor.).

MONTANA

Big Horn County

Big Horn O. & G. Co. No. 24, NW SE NE sec. 26-1s-33e.
Completed at 726 ft. for 80,000 ft. gas.
Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-33e.
S.D. 3,000 ft. after setting 6¼-in. at 2,895 ft. and drlg. out plug.

Carbon County

Bailey Round Butte Oil Co. No. 1, 1,120 ft. W of E line and 3,140 ft. N of S line, sec. 3-6s-23.
T.D. 1,551 ft.; fishing 2 strings of tools.

Choteau County

Mills & Decker No. 1, NE NW sec. 29-27n-13e.
Rig up.

Fallon County

Montana-Dakota Utilities Co. No. 1, NE NW sec. 17-3n-62e.
Coring at 5,973 ft.; base red beds 5,455-57 ft.; Minnekahta lime 5,455-90 ft.; Opeche 5,533-5,633 ft.; Minnelusa 5,639-46 ft.

Fergus County

Kalispel-Kevin Oil Co. No. 2 Emmons, C SW SE sec. 20-21-18e.
S.D. 440 ft.
H. C. Rowland et al No. 1, NE NW NE sec. 13-17n-23e.
S.D. 831 ft.
H. C. Rowland No. 2, SW SW NE sec. 13-17n-23e.
S.D. 225 ft.
E. A. Fenholt No. 1, NW NW SW sec. 21-21n-17e.
Rigging up.
Judith Operating Co. No. 1 Government, C SW SW sec. 26-22n-17e.
Drlg. 1,068 ft.

Gallatin County

Hen W. Ryan No. 1 Tice, NE NE NE sec. 28-1n-2e.
Drlg. 2,695 ft.

Glacier County

Five completions and three new locations were reported in the Cut Bank Field, where operations are holding up better than usual for winter. The best completion was Montana Power Gas Co. No. 1 Benish, C SW NW section 9-33-5w, which swabbed 214 bbls. first 24 hours. Total depth is 2,832 feet and elevation 3,825 feet. It had a good show of gas at 2,795-2,803 feet, followed by oil at 2,803-30 feet. Oil rose 2,000 feet.

Texas Co. No. 4 fee, W half SE SW section 15-35-6w, swabbed 135 bbls. first 19 hours at a total depth of 2,917 feet. Oil rose 2,200 feet from the pay at 2,845-2,906 feet. The el-

evation is 3,864 feet. R. C. Tarrant No. 2 Hope, NW SW SW section 18-34-5w, had 300 feet of oil at 2,768-75 feet. There was no Sunburst sand. It will be shot. Total depth is 2,778 feet. R. C. Tarrant No. 2 Jones, NW NW SW section 31-34-5w, had 1,000 feet of oil in the Cut Bank at 2,800-53 feet, but has not swabbed to test. There was a show in the Sunburst at 2,770-78 feet. Total depth is 2,858 feet and the elevation 3,739 feet. Montana Power Gas Co. No. 1 McDougal, C SE NW section 31-34-5w, had 1,400 feet of oil at 2,840 feet, total depth. There was a show in the Sunburst at 3,745-60 feet and oil at 2,782-2,800 feet. It has not been tested. The elevation is 3,745 feet.

Montana Pipe Line Co. and Toronto Pipe Line Co. have restricted runs from their connections to 50 per cent of potentials. Most of their oil goes to Canada.

A. B. Cobb No. 5 Walberger, C NE NE sec. 35-35n-6w.
Rig.
Cobb-Pardee No. 1 Stufft, C SE NW sec. 25-36n-6w.
S.D. 732 ft.
Cobb-Reagan No. 1 Jackson, NE NW NW sec. 5-32n-5w.
S.D. 440 ft.
Gardner et al No. 1 Cole, C SE NW sec. 2-32n-6w.
Rigged; W.O. engine.
Indian Oil Co. No. 1 Britton, C NE SE sec. 14-34n-6w.
Drlg. 2,665 ft.
L. P. Jackson et al No. 1 Tribal, NW SE NW sec. 23-34n-7w.
Ready to spud.
R. C. Jeffries No. 4 Lukens, NE NE NE sec. 12-33n-6w.
S.D. 2,610 ft.
Kincheloe-Hanlon No. 1 State, SE SE SE sec. 25-33n-6w.
Spudding 105 ft.
Jack Marshall No. 1 Tribal, 140 ft. S of N line and 200 ft. E of W line, Lot 7, sec. 7-32n-5w.
Bldg. rotary rig.
McCabe & Jeffries No. 1 Rasmussen, NE SW NE sec. 32-33n-5w.
Drlg. 1,925 ft.
Montana Power Gas Co. No. 2 Whetstone, S SW NE sec. 8-33n-5w.
Moving in rig (first report).
Nadeau Bros. No. 1 Tribal, C Lot 4, sec. 6-32n-5w.
Drlg. 2,430 ft.
Neil Spencer No. 1 Tweedy, CSL SE SW sec. 25-33n-6w.
Drlg. 1,265 ft.
Santa Rita O. & G. Co. No. 1 Shearon, 660 ft. S of N line and 349 ft. W of E line, sec. 34-36n-6w.
Drlg. 2,690 ft.; carrying 8¼-in. cave string.
Santa Rita O. & G. Co. No. 1 Lander, C N half SE sec. 16-35n-6w.
S.D.O. at 2,975 ft.
Santa Rita O. & G. Co. No. 1 Corey, NE NW SE sec. 5-32n-5w.
S.D. 2,959 ft. for spudder.
R. C. Tarrant No. 5 Getty, NW NW SW sec. 2-34n-6w.
Spudding.
R. C. Tarrant No. 2 State, C NE SE sec. 36-34n-6w.
Location (first report).
R. C. Tarrant No. 7 Haglund, Jr., C SW SW sec. 13-34n-6w.
Location (first report).
Texas Co. No. 1 Walker, C NE NE sec. 2-35n-6w.
S.D. 1,615 ft.
Texas Co. No. 1 Ewing, C SW sec. 24-35n-6w.
Standing cemented at 2,869 ft.
Wilkinson et al No. 1 Tribal, SW SE NE sec. 31-33n-5w.
Bldg. rig.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 20-14n-15e.
Showing for 10-bbl. well at 211 ft.; S.D.

Liberty County

Western Natural Gas Co. No. 1 Turner, C SE sec. 15-37n-4e.
Drlg. 1,530 ft. (first report).

Pondera County

Texas Co. No. 1 Unit 2, NE SW NW sec. 21-30n-5w.
T.D. 2,985 ft.; C.O. caves at 2,929 ft.

Teton County

Teton Oil Co. No. 1 Reickhoff, C NE SW sec. 14-24n-5w.
Drlg. 400 ft.

Toole County

Carcaillon & Mitchener No. 1 Greguer, C S half NE sec. 10-34n-2w.
S.D. 1,650 ft.
Cassidy & Cassidy No. 1 Veich, 220 ft. W of E line, 660 ft. N of S line, sec. 31-35-2w.
S.D. 1,430 ft.
Cook & Eddy No. 1 Kaskin, SW SW SW sec. 25-36n-2w.
T.D. 1,345 ft.; C.O. caves.
A. E. Crumley No. 2 Shaw, SE NW SE sec. 35-36n-2w.
Rig.
Eddy & Engleking No. 1 Sohn, SW cor. NE sec. 26-35n-3w.
S.D. 900 ft.
Fraser & Smith No. 1 Crabtree, NE NE SE sec. 14-34n-2w.
S.D. rig.
Huso Brothers No. 3 Government, SW NE SE sec. 14-35n-3w.
S.D. 1,450 ft.
Fred R. Munger No. 1 Government, SW NE NW sec. 13-35-2w.
T.D. 1,546 ft.; Ellis-Madison at 1,535-46 ft.; show of oil; acidized 500 gals. No results; will acidize again.
W. M. Hanlon No. 2, CW NW SE sec. 27-3n-3w.
T.D. 1,712 ft.; acidized and cleaning out.
Nepsted-Montgomery-Farther No. 1 Grass, 660 ft. W of E line and 220 ft. N of S line, sec. 17-35n-1w.
S.D. 560 ft.
L. O. Reickoff No. 2 Government, SW SW NE sec. 3-35-3w.
S.D. 1,265 ft. (cor.).
Stock Brothers No. 3 Haggerty, NW SW SW sec. 13-35n-2w.
S.D. 1,524 ft.
C. Leonard Smith No. 1 Eckoff, C SE sec. 6-33n-2e.
S.D. 575 ft.
C. Leonard Smith No. 1 Federal Land Bank, C NE NE sec. 11-35n-1e.
S.D. 175 ft. for winter.
C. Leonard Smith No. 1 H. Halverson, NW NE sec. 18-33n-2e.
Drlg. in; 6⅝-in. set at 1,135 ft.
C. Leonard Smith No. 1 Halverson, C NE SE sec. 18-33n-2e.
S.D. 730 ft.; tested 500,000 ft. of gas at 720 ft.

UTAH

Grand County

Columbia Crude Co. No. 1 Rath, SW SE sec. 12-25s-20e.
S.D. 135 ft. (cor.).
Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-22n-22e.
Drlg. 1,738 ft. in red beds.
Glenn Ruby et al No. 1 State, NE SE SE sec. 34-21s-16e.
Drlg. 105 ft.

Utah County

Diamond Oil Co. No. 4 Government, CSL SE NW sec. 16-9s-15e.
Drlg. 3,952 ft.

Washington County

Arrowhead Pet. Co. No. 1-A, SE SW NE sec. 1-43-15.
Drlg. 3,012 ft.
Anna V. Toney No. 1 Toney, CNL NE SE sec. 33-40s-11w.
Drlg. 370 ft.
W. W. Toney No. 1 Government, CNL SE SW sec. 18-41s-12w.
P. and A at 185 ft.
Utah Parks Pet. So. No. 1 Government, C NE NE sec. 13-41s-12w.
Drlg. 620 ft. in shale (first report).

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, O., Jan. 20.—The Lima field shows a slight increase in work as well as the entire area of the Central West fields. In Hardin County particularly if weather conditions are favorable, increased activity will be shown. In Seneca County, Murphy Son's test on the Simon-Werling farm, section 16, Hopewell Township, was dry at 1,523 feet. William McPharon & Co. are drilling No. 5 Frank Fox, section 11, same township.

In Wyandot County, Huston & Co. No. 1 David Heck, section 19, Crawford Township, is a gas well at 1,290 feet.

In Wayne County, Ohio Fuel Gas Co. is drilling No. 1 Eli S. Finley, section 31, Chester Township. In Lorain County, Schneider & Wyles test on the V. Terrell farm, section 7, Ridgeville Township, is a gas well in the Clinton sand. Frank Meredith has a rig on the Rice & Rosencrans farm, Lot 104, same county.

In Cuyahoga County, C. A. McMillen No. 1 Furmeyer-Geisendorfer, is a gas well at a total depth of 2,692 feet.

In Holmes County, Ohio Oil Co. No. 2 Alonzo Bucy, Lot 9, Richland Township, was dry at 3,340 feet. Same company is drilling No. 1 Phillip, section 26, Paint Township. Unknown parties are drilling on the William Craig farm, section 9, Mechanic Township.

In Summitt County, East Ohio Gas Co. No. 1 Adam Lauby, section 17, Greene Township, was dry.

In Coshocton County, Pure Oil Co. No. 1 Nila Clark, Newcastle Township, produced an initial of 30 bbls. at 3,224 feet.

In Stark County, Ohio Fuel Gas Co. No. 1 John E. Boerner, section 9, Jackson Township, is a gas well at 4,339 feet.

In Fairfield County, City Natural Gas Works No. 2 Chas. J. Fisher, Lot 37, is a gas well. In Greenfield Township, the same company is drilling No. 2 Mondhank & Bougher, section 1.

KENTUCKY

In Ohio County, Kentucky, Snowden-McSweeney Co. No. 26 H. J. O'Dell, 365-acre farm, was dry. In the same area, Porter & Co. No. 4 Edwards Heirs was dry. In the Webster pool, Teller & Co. No. 7 O. Whitehouse produced 25 bbls. initial. Lowman & Co. No. 2 H. Evans, same pool, produced 7 bbls. from the Jett sand.

In Hancock County, Joseph B. Mayer No. 3 Frank Richards, Livermore area, is a gas well and his No. 3 Frank Richards, was a gas well.

In McLean County, Clark & Snyder No. 1 Stevenson Heirs, Livermore area, produced an initial of 110 bbls. Wittmer Oil & Gas Co. No. 1 Stevens Heirs was dry. Ellis & Barrett No. 3 Otto Howard, was dry. Sunflower Oil & Gas Co. No. 3 H. Howard, produced 40 bbls. initial. Walter Sargent No. 1 W. S. Taylor, produced 12 bbls. initial. Kentucky Natural Gas & Hupp No. 1 W. Atherton produced 20 bbls. initial.

INDIANA

In Knox County, Phillips Petroleum Co. No. 1 N. A. Hall 10 acres, SW NW section 14, produced 5 bbls. from 819 feet in Busseron Township. Same company's No. 5 Starner Bond, NE NE section 11, is a gas well at 612 feet and No. 6 is drilling on the same farm. B. H. Parker & Co. No. 2 Maud Wolf produced 10 bbls. initial at 825 feet. O. A. Thayer has 5 wells under way in the township, including No. 1 on the Richard Beaman farm, NE SE section 12, No. 1 on the Gertie Winemiller farm, SW SW section 12, and No. 1 on the Blanche Pattee farm, SE NW section 7, L. J. Loyd is drilling No. 1 Evans, section 11, and Harry Hanson & Co. No. 2 O. Smith, section 4.

In Daviess County, Managers Discount Corp. No. 1 Oral Frye, NW NW section 17, Reeves Township, was dry at 705 feet. Wallace Oil Co. No. 1 T. E. Ragsdale NE SE section 21, Veale Township, was dry, and Geiger Oil Co. is drilling No. 1 J. N. Peek, NW NW section 21. In Barr Township, Hart Brothers are drilling No. 5 Mrs. Marion Graves, SE SW section 5, and A. T. Spaulding is drilling No. 2 Sadie Beck, NE NE section 5.

In Decatur County, Hoosier Public Service Co. No. 1 John W. Beck, S½ SW section 21, Marion Township, is a gas well at 39 feet in the Trenton limestone.

In Gibson County, Midwest Development Corp. is drilling on the Maude & Dennis Harper farm, NW NW section 26, Columbia Township, George W. Porter is drilling No. 1 Robert Melton Heirs, S½ NW section 12. In White River Township the R. J. Smith test on the Floyd Hull farm, SE SW section 23, was dry at 1,025 feet. In Washington Township, W. C. McBride Inc. No. 1 on Nannie Quiggins in SE NW section 18 was dry.

In Johnson County, J. L. Hassett test on the Dwight LaGrange farm, NW SW section 4, Franklin Township, is drilling. In Hancock County, J. Harve Snider is drilling No. 1 Welbert Messena, section 28, Brandywine Township.

In Sullivan County, Nelson No. 1 David Holden, SE NW section 29, Haddon Township, was a gas well, with 500,000 feet at 824 feet. Nelson Brothers are starting No. 1 on George Blakeman, NE SW section 29.

In Perry County, Chas. Dice No. 1 Math Gayer, SE NW section 6 was dry at 625 feet. Haney & Hollingsworth No. 1 William Kress, SW NE section is a gas well, No. 2 is drilling. Same parties are drilling No. 1 T. M. Schwartz farm, NE NW section 9. Gardner Oil Co. No. 2 W. F. Lannan, NE SW section 27, Clark Township, produced 3 bbls. initial at 153 feet. William Stevenson is drilling on the Riley Aders farm, NE NW section 28. In Troy Township Staves Drilling Co. No. 1 A. & L. Lautner, SW SE section 5, was dry at 528 feet. Same company is drilling No. 1 Leopold Herr farm, SE SW section 16, Troy Township.

In Pike County, Mid-West Development Corp. No. 3 Franklin A. Schrolucke, SW NE section 18, is a gas well and No. 4 same farm, is drilling. Indiana Southwestern Gas Corp. is drilling No. 1 Turner Gross, SW NW section Patoka Township. Reed, Parson & Havens are drilling No. 1 Alice Robling, NW NE section 19. In Washington Township, Dilley & Miller are drilling No. 2 Willard Morrison Heirs farm, SE NW section 30.

In Spencer County, M. P. Evans No. 1 William Protsman, NE SE section 1, Huff Township, is dry at 856 feet. W. W. Dameron No. 1 Allen Varner, NE SE section 19, is dry at 838 feet, and Ohio Oil Co. No. 2 S. & L. Varner farm, SE NW section 19, was also dry.

In Vanderburg County, L. R. Henley & Co. No. 1 Christ Ziss, section 30, Armstrong Township, produced an initial of 35 bbls. at 1,222 feet.

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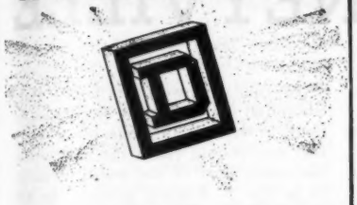

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Among Gulf Coast Drilling Contractors

Cron and Gracey completed Sinclair Prairie Oil Co.'s well at Damon Mound and have seven other rigs running located as follows: One at Barbers Hill for Sinclair; one at Roanoke for Shell Petroleum Co.; one at Iowa for the same company; one at Manvel for The Texas Co.; one at South Houston for Stanolind Oil & Gas Co.; one at Placedo for Barnsdall Oil Co.; and one at Eunice, N. Mex., for Repollo Oil Co.

Smith and McDannald set a production string on No. 1 Wilder at Louise for Pure Oil Co. and will move in for No. 1 Jones for the same company. Contract was received from Tide Water Oil Co. to drill No. 1 Reagan at Long Lake and at St. Martinsville for the same company. No. 2 Smedes is shut down at 7,493 feet while heavier equipment is being installed to carry the hole down to 9,000 feet if necessary.

Anderson, Kerr and DeArman are moving in rig and boilers for No. 1 Tompkins, a wildcat located on the Burnett Bay prospect, east of Houston in Harris County. It is being drilled for Cockburn Oil Co. and is accessible by a board road which extends out in the marshes 3,400 feet. The contract depth has been reached on Blackgold Petroleum Co. No. 1 Barrow in Chambers County and the rig has been leased to the company to drill the hole to 7,500 or 8,000 feet. The present depth is 6,023 feet.

Rutherford Drilling Co. has received contracts for three wells from Skelly Oil Co. to be drilled at the Bay City field in Matagorda County. They are No. 1 E. C. Metzger, No. 4-B Cobb and No. 5-B Cobb, all of which are located in the M. Cummings Survey. At Placedo No. 2 Gray is being completed for Barnsdall Oil Co.

H. J. Porter has two rigs running in Southwest Texas. In Live Oak County for Early Callaway, 6 miles southwest of Georgewest, No. 1 Maczygeniba is drilling ahead below 3,500 feet. Another rig is located on a wildcat in Starr County and has shown considerable gas pressure. It is being drilled by Clopton and others.

Ben (Bud) Coyle received contracts for two tests in the new Jeanerette field in Mt. Mary Parish, La. They are for the Herton Oil Co. and will be known as No. 2 Roane and No. 1 Banita. At Mud Lake for the Pan American Producing Co., No. 1 Lutcher Moore is drilling below 9,000 feet and for the same company at Port Barre in St. Landry Parish No. 1 Cormier is drilling in shale below 4,888 feet.

Glenn McCarthy No. 1 Howth, a wildcat in Jefferson County, is drilling below 7,000 feet and is reported to have encountered some showings of gas. For Humble Oil & Refining Co. at Anahuac, surface casing has been cemented in No. 6 White.

Talbot Drilling Co. is drilling plugs on No. 1 Trinity Lumber Co., located in Walker County and being drilled for Bradley and others. Another rig is located at the Cold Springs area in Jackson County. It is leased to J. E. Hooper who is drilling No. 1 Mitchell.

Edwards Drilling Co. is moving in a rig for No. 3 Maco Stewart at the Dickinson field for Coast Petroleum Co., is pulling screen and liner preparatory to testing No. 274 Lake Pegneur located in Iberia Parish on the Jefferson Island Dome and is preparing to sidetrack the hole on No. 2 Shelor for Pure Oil Co. at the Dickinson field.

Loffland Brothers, who completed the discovery well at Turtle Bay in Chambers County for Stanolind Oil & Gas Co., are nearing the pay on No. 1 Cooper, a west offset to the discovery well. It is drilling below 5,900 feet. Since plugs were drilled on the 10th, the average drilling time has been approximately 600 feet per day.

Afternoon drilling crew of Noble Drilling Co. on derrick floor of No. 1 Cooper Heirs at Turtle Bay, Chambers County, being drilled for Stanolind Oil & Gas Co. Standing left to right: J. L. Deputy, driller; E. V. Pollard, W. H. Smith, J. Q. Mangrum and John Johnson

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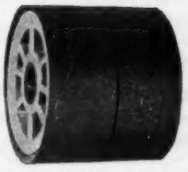

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Texas and Louisiana Gulf

By
F. L. SINGLETON

FAVORABLE SHOW INDICATES PRODUCER AT CHENEYVILLE

HOUSTON, Tex., Jan. 20.—The Cheneyville field, Rapides Parish, Louisiana, seemed assured of receiving its second producer, due to the favorable showing made by Amerada Petroleum Corp. No. 2 Weil Land Co. located approximately 1,000 feet east of the company's discovery well. Sand showing oil was cored from 5,708-15 feet, the total depth, and the operators have cemented 7-inch casing at 5,700 feet, preparatory to testing. The sand was encountered at about the same level of the first well which indicates a uniform sand section.

Cheneyville was discovered in November and although the discovery well had the appearance of being more of a gas well than an oiler, it has increased its output and is flowing approximately 300 bbls. of 51.4 gravity oil per day. This is the first production to be developed from the Cockfield sand in Louisiana, consequently the outcome of the development in this field is being watched with much interest.

At Bayou Mallet (Church Point), Superior Oil Producing Co. is building derrick for No. 1 M. Savoy, located 400 feet north, 280 feet east of the southwest corner of a 28.9-acre tract, being a part of a 93.5-acre tract in section 47-7s-1e. It is approximately 2,000 feet north of the company's No. 1 Adams Smith completed last week for a wet gasser at a plugged back depth of 7,198 feet.

There were 10 locations and 5 completions reported for this district during the week. Of the new locations, two were wildcats. In Calcasieu Parish, Union Sulphur Co. announced location for No. 2 Prairie Farm Land & Canal Co., situated about 1½ miles west of No. 1 Prairie that was abandoned a few months ago at 9,041 feet. Actual foot measurements are 330 feet east and 330 feet north of the SW cor. NW quarter section 2-11s-9w. Northeast of the Port Barre field, St. Landry Parish, Gulf Refining Co. is rigging up for No. 1 Sibille located in section 7-6s-7e.

Jeanerette Field

The Jeanerette field, St. Mary Parish, discovered a few weeks ago by Herton Oil Co., received its first development when the company made locations for two tests. They are No. 2 Roane, 825 feet south of No. 1 Roane and 527 feet north, and 557 feet east of the SW cor. section 40-13s-9e, and No. 1 Banta, a west offset situated 990 feet west of No. 2 and 395 feet west of the SW cor. of the section. No. 1 Roane was drilled on a block of approximately 12,000 acres, which is controlled by the Herton Oil Co.

Tide Water Oil Co. has shut down No. 2 Smedes located at St. Martinsville, St. Martin Parish, Louisiana, at 7,454 feet, and is moving in heavier equipment to drill to 9,000 feet if necessary. It is located southwest of the discovery well and is the third test to miss the sand encountered in No. 1 Smedes at around 5,500 feet.

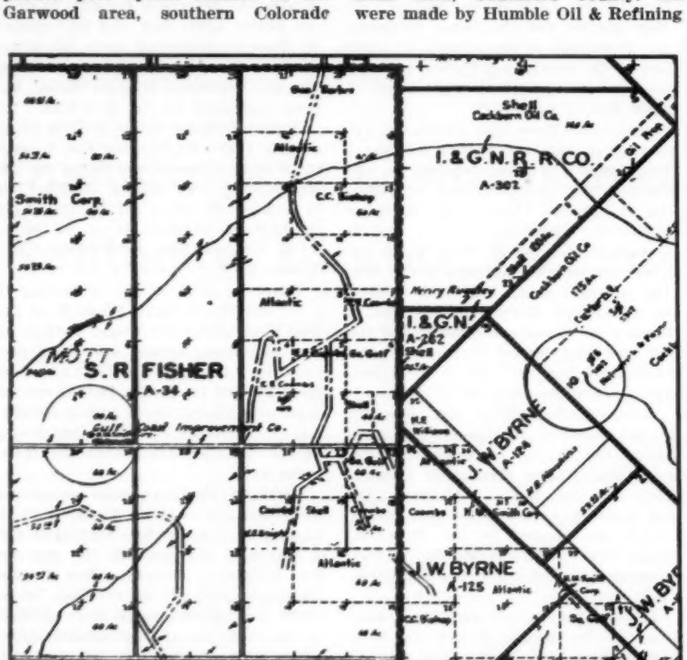
Colorado County

Along the Texas Coast, preparations were being made to reset screen and liner and test Sterling Oil & Refining Co. No. 2-B Powell, a prospective pool opener located in the Garwood area, southern Colorado County. It is bottomed in the Cockfield sand at 6,110 feet and when tested early in the week it flowed 85 per cent wash water and 15 per cent b.s. and emulsion and oil with casing pressure 300 pounds. It flowed for several hours, but went dead and after the screen was pulled, it was found to be sanded up. Due to the well testing 450 feet of 43.68 gravity oil on a drill stem test and being from 75 to 80 feet structurally higher than other wells drilled in the area, indications are favorable for it to make a producer. Location is in section 45, I.&G.N. Survey.

On the west side of the Hastings field, Brazoria County, Humble Oil & Refining Co. No. 2 Nelson flowed 24 bbls. per hour through a quarter-inch choke from a total depth of 6,082 feet. Location is in the H.T.&B. Survey No. 36. In the same survey, Stanolind Oil & Gas Co. has rigged up on No. 2 Cannon located 330 feet south and 330 feet east of the northwest corner of a 40-acre tract. The company's No. 1 Cannon is bottomed in oil sand at 5,884 feet with 7-inch casing cemented at 5,634 feet.

Anahuac Field

There were two completions and five locations recorded for the Anahuac field, Chambers County. All were made by Humble Oil & Refining Co. and are as follows: No. 2 H. E. Marshall, section 50, H.&T.C. Survey; No. 2 H. A. Gripon, section 51; No. 3 W. C. Tyrell, section 52; No. 1 G. C. Wilcox, section 50, the most northeasterly test drilled, and No. 4 Zappe in section 51. Gulf Production Co. completed No. 2 Knowles and it flowed 660 bbls. per day through a quarter-inch choke from a total depth of 7,076 feet. In section 58, Humble Oil & Refining Co. No. 13 Middleton flowed 27 bbls. per hour through a quarter-inch choke from 7,085 feet. The Discorbis was topped at 5,979 feet, Heterostegina at 6,283 feet, Marginulina 6,643 feet and the Frio at 6,921 feet. The company's No. 3 Broussard in section 59 is bottomed in oil sand at 7,085 feet with 7-inch casing cemented at 7,040 feet. Discorbis was topped at 6,079 feet, Heterostegina 6,383 feet, Marginulina 6,591 feet and the Frio at 6,959 feet.



Map of the Shepherds Mott dome, Matagorda County, showing location of Helmerich and Payne No. 1 Hawkins which is drilling below 7,500 feet. To the west is H. M. Smith No. 1 Wadsworth, recently completed for a small well below 8,800 feet

(Map courtesy of W. W. Zingery, Second National Bank Building, Houston, Tex.)

To the northwest at Turtle Bay, Stanolind Oil & Gas Co. No. 1 Cooper heirs is drilling in shale below 5,957 feet and should reach the pay during the latter part of the week. Location is in the S. Burney Survey. As yet no oil from the discovery well has been moved from the field. It is reported that the company contemplates laying a short line to Turtle Bayou and barging the oil out.

Humble Oil & Refining Co. No. 6-A Maco Stewart, a south outpost test in the Dickinson field, Galveston County, was tested through perforated casing from 8,608-25 feet and on a 20-minute test it showed 30 thribbles of mud and salt water and 30 pounds of pressure. Perforations have been made from 8,507-14 feet and it is to be tested again. Location is in the John Sellers Survey. The company's No. 3-B Maco Stewart is coring in sandy shale below 8,608 feet.

On the south flank of Batson dome, Hardin County, John Deering and others No. 3 Cruse was completed at 5,298 feet and flowed 180 bbls. per day through a three-sixteenths inch choke with tubing pressure 140 pounds and casing pressure 800 pounds. It will probably rate a much better producer after a potential test is made. Location is in the F. H. Green Survey. In the W. Donoho Survey, Shell Petroleum Corp, is preparing to test No. 2 Jordan, bottomed in sand at 4,720 feet with 7-inch casing cemented at 4,702 feet. This is the second well to be completed by the company in the field.

At Mykawa, Harris County, Danciger Oil & Refining Co. No. 4 Minnetex, located in the W. H. Lovett Survey, was tested through perforated casing from 4,776-94 feet and flowed 15 bbls. per hour through a quarter-inch choke with tubing pressure 950 pounds. West Production Co. has rigged up for No. 7 Irwin, located in the W. B. Walker Survey.

Stanolind Oil & Gas Co. has made application for permits to drill two wells at South Houston, Harris County. They are located in the northern part of the field in district No. 25 and No. 46. On the west side of the field and outside of the townsite, Sterling Oil & Refining Co. has a rig up for No. 1 Summers, located 500 feet west and 150 feet north of its No. 1 Dean in the H.T.&B. Survey No. 5, Block 138.

Conroe Field Test

West Production Co. made location in the Conroe field, Montgomery County, for an interesting test. It is No. 4 Foster Lumber Co., situated 400 feet north and west of the SE cor. of the T.&N.O. Survey, section No. 3. It is about a mile and a half from production in the southeast part of the field and is being drilled in an attempt to develop production in

an area which has been regarded as the southeast limits of the field.

Six miles northwest of Victoria, Victoria County, Guiberson, Pettit and others have made locaton for No. 1 Wedemeyer, a scheduled deep test located 498 feet southwest along the northwest line of survey from railroad and 1,129 feet southeast at right angles in the J. R. Carbajal Survey.

The Five Corners field, recently opened in the southern part of Wharton County, received a second test when Rio Bravo Oil Co. made location for No. 1 T.&N.O. Ry. Co., located 6,165 feet northeast along the center line of the railroad track from the intersection of the center line with the north line of the I.&G.N Survey No. 37 and 35 feet northwest at right angles to the center line of railroad. It is approximately 1,300 feet from the discovery well on a 43-acre tract. The name of the field has been changed from Five Corners to Withers, which is the third time it has been changed. It was originally known as Blue Basin.

To the north at Pickett Ridge, Texas Co. is preparing to drill plug on No. 8-A Pierce that is bottomed in oil sand at 4,710 feet with 7-inch casing cemented at 4,710 feet. Location is in the I.&G.N. Survey No. 39.

Jefferson County

At the Amelia Prospect, northern Jefferson County, Humble Oil & Refining Co. No. 1 M. E. Langham is drilling in shale and lime below 5,300 feet. Location is in the C. Williams Survey. To the southwest on the Pine Island prospect, Glenn McCarthy, Inc., No. 1 G. W. Howth is drilling in shale below 7,000 feet and is being watched with much interest. Location is in section 50, T.&N.O. Survey. Another interesting wildcat is Sun Oil Co. No. 1 Hebert and Broussard, located to the southeast in the B. Blackman Survey. It has been deepened from 8,282 feet and is now bottomed in sand at 8,739 feet, showing considerable gas. The top of the gas sand was encountered at 8,729 feet. In the southeastern part of the county, Bishop and Atlantic Oil & Producing Co. have made location for a wildcat. It is No. 1 Grinnell Texas and is located 2,640 feet southwest along the northwest line of the N. Grigsby Survey from the north corner and 960 feet southeast at right angles.

At Shepherds Mott, Matagorda County, Helmerich and Payne No. 1 Hawkins, located in the D. McCarthy Survey, is bottomed at 7,633 feet and was preparing to make an electrical coring test. A production string of 5 3/6 inch casing was cemented a few weeks ago at 7,326 feet, but no drill stem test was made as previously reported. John Deering No. 1 R. A. Estelle, located in the Tone and Jameson Survey, is drilling in shale and lime below 6,000 feet with no shows of oil or gas being reported. Two miles northeast of Hawkinsville in the Thomas Williams Survey, Sun Oil Co. No. 1 Craig is drilling in shale and lime below 4,211 feet.

At the Bay City field, Matagorda County, Skelly Oil Co. has let contracts for three tests. They are No. 1 E. C. Metzger, southeast of the company's No. 1 Johnson, a producer, No. 4-B Cobb, southeast of No. 1-B Cobb, the discovery well, and No. 5-B Cobb, southeast of No. 1-B, all being located in the M. Cummins Survey.

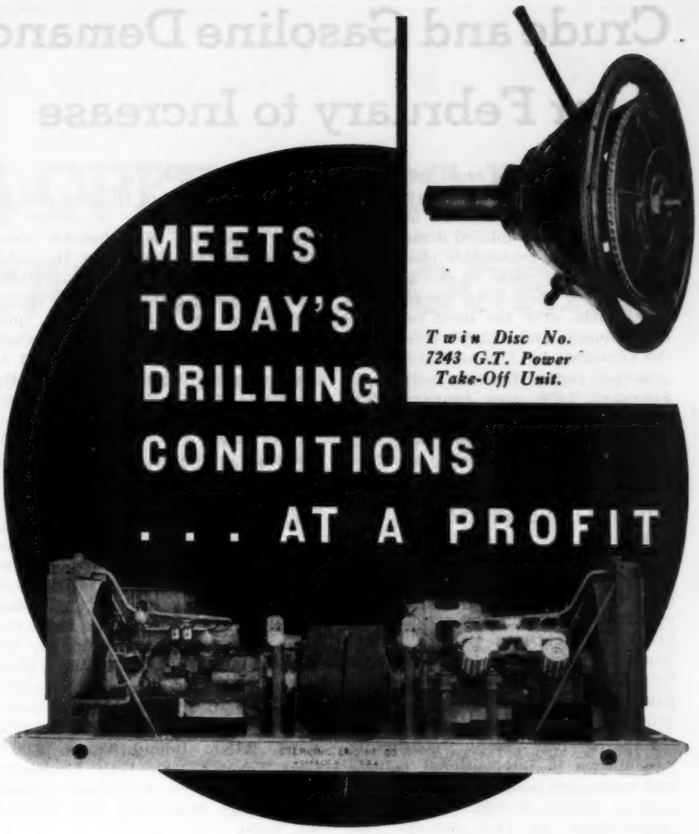
Osage Sale on Feb. 11 Offers 84 Tracts

A public sale of Osage, Oklahoma, oil leases will be held in Pawhuska, Okla., on Tuesday, February 11, commencing at 1:30 p.m., at which time 84 leases will be offered at auction, all but one being quarter sections of 160 acres. The odd one is a 7.25-acre lease. In all, 13,287.25 acres will be put up for sale. A number of leases in the South Burbank and Naval Reserve areas will be among the properties listed.

Tr. No.	Description	Acres
1	SE 8-20-12	160
2	NE 32-23-12	160
3	NE 33-23-12	160
4	NW 33-23-12	160
5	NW 6-24-12	160
6	SW 31-25-12	160
7	NW 28-20-11	160
8	SW 28-20-11	160
9	NE 29-29-11	160
10	SE 29-20-11	160
11	NW 4-23-11	160
12	NW 28-23-11	160
13	NE 1-24-11	160
14	SW 35-25-11	160
15	SE 14-27-11	160
16	SW 14-27-11	160
17	NE 23-27-11	160
18	NW 23-27-11	160
19	SE 23-27-11	160
20	SW 23-27-11	160
21	SW 13-21-10	160
22	NW 30-23-10	160
23	SE 10-26-10	160
24	SW 10-26-10	160
25	SW 6-21- 9	160
26	NW 17-21- 9	160
27	SE 18-21- 9	160
28	NW 27-21- 9	160
29	SW 28-21- 9	160
30	Fr. NE 31-21- 9	7.25
31	NE 32-21- 9	160
32	NW 33-21- 9	160
33	SE 31-22- 9	160
34	SW 31-22- 9	160
35	NE 25-23- 9	160
36	SE 33-23- 9	160
37	NE 3-24- 9	160
38	NW 3-24- 9	160
39	SE 1-21- 8	160
40	NE 14-22- 8	160
41	NE 5-24- 8	160
42	SE 5-24- 8	160
43	NW 17-24- 8	160
44	NE 18-24- 8	160
45	SW 18-24- 8	160
46	NW 23-24- 8	160
47	NE 24-24- 8	160
48	NW 27-24- 8	160
49	SE 27-24- 8	160
50	SW 27-24- 8	160
51	NW 6-22- 7	160
52	NE 26-22- 7	160
53	SE 26-22- 7	160
54	SW 31-23- 7	160
55	NE 7-24- 7	160
56	SE 7-24- 7	160
57	NE 9-24- 7	160
58	NW 9-24- 7	160
59	NW 10-24- 7	160
60	NE 14-24- 7	160
61	SE 14-24- 7	160
62	NW 17-24- 7	160
63	SW 17-24- 7	160
64	NW 25-24- 7	160
65	SE 31-24- 7	160
66	NE 36-25- 7	160
67	SW 1-26- 7	160
68	SE 2-26- 7	160
69	NE 1-22- 6	160
70	NW 13-23- 6	160
71	SW 13-23- 6	160
72	SE 36-23- 6	160
73	NW 16-25- 6	160
74	NE 29-25- 6	160
75	NW 29-25- 6	160
76	NW 13-26- 6	160
77	SW 13-26- 6	160
78	SE 23-26- 6	160
79	NE 26-26- 6	160
80	NW 33-27- 5	160
81	SW 33-27- 5	160
82	NW 3-25- 3	160
83	SE 3-25- 3	160
84	SW 3-25- 3	160
Total		13,287.25

Scouts Association

At a meeting held at the Biltmore Hotel in Oklahoma City January 17 oil scouts from Oklahoma voted to join the National Oil Scouts Association made up of scouts in Texas, New Mexico, Louisiana and Arkansas. There were 81 in attendance at the meeting at which B. F. Sutherland of Shawnee was elected president of the Oklahoma division; D. Emiessch, Phillips Petroleum Co., was elected vice president, and M. A. Rickett, Sinclair Prairie Oil Co., secretary-treasurer.



Twin Disc No. 7243 G.T. Power Take-Off Unit.

This Sterling Portable, Self-Contained, Butane Electric Drilling Rig has two Sterling Petrel, 6-cylinder, 5¼ x 6, Combination Butane-Gas-Gasoline Engines equipped with Twin Disc No. 7243 heavy duty, gear Tooth Drive Type Power Take-Offs, especially developed by Twin Disc engineers for oil field installations.

"It is necessary to provide clutches on the Sterling outfit for two reasons", says M. E. Mutchler, General Sales Manager of the Sterling Engine Company. "First: to enable each engine to be started, disconnected from the load; second: to permit the unit to operate from the power of one engine—and the Twin Disc Clutch performs these functions admirably. Twin Disc Clutches are presented in a housing suitable for adaptation to an engine, and facilitating the attachment.

"The Sterling unit has drilled several wells, and latest reports are that the clutches are working satisfactorily. The work is very hard; and the load changes are frequent, and at certain times one engine is operated while the other is idle, necessitating that the clutch on the idle engine remain in neutral, hitherto a rather difficult thing to accomplish with a friction clutch.

"We have been using Twin Disc Clutches for a number of years, and while we know there are other clutches on the market, the service has been so satisfactory and the Twin Disc policy so ethical that we have not looked elsewhere."

Write* for specific recommendations. Engineering data on request. *Twin Disc Clutch Company*, 1328 Racine St., *Racine, Wisconsin.

TWIN DISC CLUTCHES

Crude and Gasoline Demand for February to Increase

The daily average required production of crude oil for February, 1936, as forecast by the Bureau of Mines to meet the contemplated demand and to provide for reasonable changes in stocks of both crude oil and gasoline, is 2,648,100 bbls., an increase of 88,900 bbls. over the level suggested for January, and 122,000 bbls. above the allowable for February, 1935. The principal causes for the increase in February, 1936, over January, 1936, was a higher estimate of motor-fuel demand and an increased allowance for additions to gasoline inventories.

Motor Fuel

Domestic demand—The domestic demand for motor fuel for February, 1936, has been estimated at 29,080,000 bbls., an average of 1,003,000 bbls. per day; this represents an increase of 6.2 per cent over the actual daily average of February, 1935. This contemplated increase in demand reflects both the increasing consumption of gasoline per motor vehicle and improved business conditions.

Exports—The many conflicting possibilities in international politics and economics make the task of estimating exports a difficult one. The probabilities are that exports will continue far above normal, hence the estimate of gasoline exports for February has been raised to 2,320,000 bbls. from 2,230,000 bbls. estimated for January, 1936.

Stocks—Stocks of finished and unfinished gasoline on November 30, 1935, amounted to 52,046,000 bbls.; the comparable total as of December 31, 1935, will approximate 56,000,000 bbls. Assuming the bureau's recommendation for January, 1936 (plus 4,230,000 bbls.) will be reached, stocks on January 31, 1936, will be close to 60,230,000 bbls. To reach the economic level of 67,000,000 bbls. (raised from 66,500,000 bbls. as given in last report due to increase of 500,000 bbls. in California) for March 31, an increase of 4,300,000 bbls. is contemplated for February, 1936.

Gasoline production — Deducting "direct" sales of 700,000 bbls. from the total demand, and adding the stock increase, gives 35,000,000 bbls. as the required production of finished and unfinished gasoline in February, 1936. This is distributed among the various districts as follows (thousands of barrels): East Coast, 5,930; Appalachian, 1,290; Indiana-Illinois, 5,470; Oklahoma, 2,130; Kansas-Missouri, 2,180; Inland Texas, 2,600; Gulf Texas, 7,690; Gulf Louisiana, 1,270; Arkansas - Louisiana - Inland, 680; Rocky Mountain, 750; California, 5,010.

Crude Petroleum

Runs to Stills—The percentage of natural gasoline in the gasoline to be manufactured in February, 1936, has been estimated at 6.8 per cent, reflecting the lessened need for high volatile winter gasoline when compared with the 7.3 per cent estimated for January, 1936, but slightly higher than the actual percentage of February, 1935. Applied to the total required refinery production, this percentage is equivalent to 2,380,000 bbls. of natural gasoline, which deducted from the total production required, leaves 32,620,000 bbls. of gasoline to be made from crude oil.

The percentage yield of gasoline was estimated at 44.05, the same as used for January, 1936. This ratio applied to the gasoline required gives 74,060,000 bbls. of crude to be run to stills.

Imports—Imports of crude oil (runs to stills of foreign crude) have been estimated as 2,740,000 bbls., or practically the same as for January, 1936.

Exports, fuel, and losses—The forecasting of crude-oil exports is attended by, essentially, the same difficulties experienced in estimating gasoline exports. Indications point to increases in this trade for the next few months, hence, the estimate has been raised to 3,610,000 bbls. from 3,570,000 bbls. used in January, 1936. It is estimated that 2,300,000 bbls. of crude oil will be used as fuel or lost during February.

Stocks—Provision has been made for the withdrawal of 15,000 bbls. daily from crude-oil stocks during February, 1936. This compares with a withdrawal of 25,000 bbls. daily recommended in January. The contemplated withdrawal for February affects only California, in fact, a net increase of 3,600 bbls. daily was provided for east of California.

Required production—The proper additions and subtractions of the elements described above give 2,648,100 bbls. as the daily average required production in February, 1936. The equitable and impartial breakdown of this figure by states is as follows:

DAILY AVERAGE REQUIRED PRODUCTION (Barrels)

State—	January, 1936	February, 1936
Texas	1,017,200	1,068,200
California	517,800	529,600
Oklahoma	481,000	483,700
Kansas	134,000	137,400
Louisiana	132,600	141,100
New Mexico	59,300	61,300
Michigan	42,200	44,800
Pennsylvania	39,700	42,900
Wyoming	33,200	34,400
Arkansas	28,900	30,900
Kentucky	14,500	14,500
Montana	11,300	11,900
Illinois	11,300	11,200
Ohio	10,200	10,400
New York	10,100	10,500
West Virginia	10,000	10,300
Colorado	3,700	3,800
Indiana	2,200	2,200
Total	2,559,200	2,648,100

SUMMARY OF FORECASTS FOR FEBRUARY, 1936

	(Barrels)
Demand for motor fuel:	
Domestic demand	29,080,000
Exports	2,320,000
Total demand	31,400,000
Supply of motor fuel:	
Benzol and stabilized natural	700,000
From stocks	—4,300,000
Refinery production	36,000,000
Daily average	1,206,900
Crude oil requirements:	
Natural gasoline blended	2,380,000
Per cent yield of gasoline from crude	44.05
Refinery crude required	74,060,000
Imports	2,740,000
Exports	3,610,000
Fuel and losses	2,300,000
Total demand for domestic crude	77,230,000
From stocks	435,000
Required producton	76,795,000
Daily average	2,648,100

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Williams' "Vulcan Boll-Weevil" gives you everything you need in a pipe tool—rapid action—durability—simplicity (only 6 parts) plus convenience. "Vulcan Boll-Weevil" is applied *on top* of the pipe. Never has to be held up—never requires the user to change his position. "Makes-Up" and "Breaks-Out" without unhooking the chain.

Proof-tested chains are positively self-releasing and interchangeable, size for size, with *all* "Vulcan" tongs.

Here's a general purpose tool that merits investigation—ask your distributor!

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"SUPERRENCHES"
Williams also manufacture a complete line of "Superrenches" (Chrome-Molybdenum) and Detachable "Supersocket" Wrenches... thin, strong, handsomely finished in chrome-plate.
"SUPERSOCKETS"

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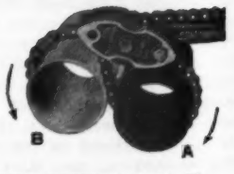
SUPERIOR DROP-FORGED TOOLS
VULCAN BOLL-WEEVIL REVERSIBLE TONGS

A "MAKING-UP" Engage rear teeth and push down.

B "BREAKING-OUT" Pull tong back to engage forward teeth and pull up.



WESTERN WAREHOUSE & SALES OFFICE, CHICAGO—WORKS, BUFFALO, N. Y.

California Field Report

CALIFORNIA OPERATORS PLAN NEW WILDCATTING PROGRAM

By L. P. STOCKMAN

LOS ANGELES, Calif., Jan. 20.—Paradoxical as it may seem in view of the resumption of curtailment activities, California operators are completing plans for a more aggressive drilling and exploration program during 1936. This is especially true of wildcat drilling as all operators recognize the necessity of increasing or at least maintaining reserves. Deep drilling in proven fields will probably also prove to be an important factor in drilling and production activities during the next 12 months. Exploitation of deep zones is almost certain to be undertaken in the Elwood Field of Santa Barbara County and several wells should be carried down to the deep 57 zone in the Ventura Avenue field. Deep zone exploitation will also continue in the North Belridge and Dominguez fields and several attempts are expected to be made to discover new deep zones in some Los Angeles Basin fields. Drilling operations in the several dry gas fields is expected to be on about a par with similar work last year although it appears quite probable that this projected drilling will cover several productive areas rather than being limited to any single area as was the case in 1935. During the past year 22 gas wells were completed in the Semi-Tropic gas field of Kern County, but since this represents the maximum conservative development until the field has been on commercial production, operators are expected to center future drilling activities in other districts. It is logical to assume in the light of recent developments that a number of tests will be drilled during 1936 in the Delano, Tracy and Buena Vista gas fields and drilling operations restricted in the Buttonwillow, Semi-Tropic and Goleta gas fields.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	January 6		December 31			
Intercoastal-domestic:	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Diesel and gas oil	.....	.....	71,356	10,194	.....	.....
Gasoline	231,860	38,643	131,813	18,830	231,860	69,108
Kerosene	78,640	13,107	.....	.....	78,640	.....
Foreign exports:						
Crude oil	96,333	16,056	232,735	31,819	96,333	58,161
Fuel oil	141,310	23,552	372,136	53,162	141,310	23,074
Diesel and gas oil	53,150	8,858	214,602	30,657	53,150	5,450
Gasoline	140,572	23,429	279,683	39,955	140,572	.....
Coastwise-domestic:						
Crude oil	63,894	10,649	60,182	8,597	63,894	138,896
Fuel oil	129,337	21,556	151,737	21,677	129,337	378,110
Diesel and gas oil	15,552	2,592	14,588	2,084	15,552	.....
Gasoline	133,021	22,170	439,915	62,845	133,021	320,828
Kerosene	6,433	1,072	2,235	319	6,433	11,388

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

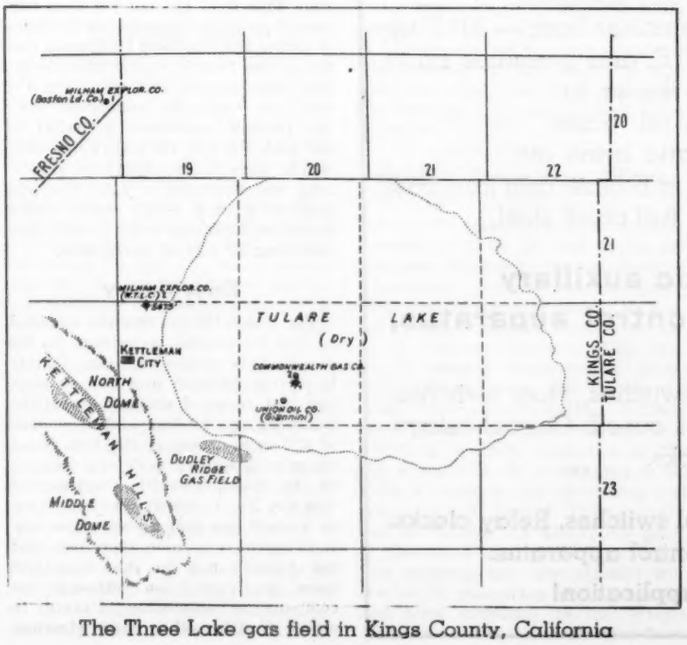
Intercoastal-domestic:						
Kerosene	.....	.....	56,284	8,041	.....	.....
Asphalt	.....	.....	508	73	.....	.....
Lubricants	.....	.....	4,192	599	.....	.....
Foreign exports:						
Crude oil	.....	.....	20,201	2,886	.....	.....
Fuel oil	20,178	3,363	76,287	10,898	20,178	.....
Diesel and gas oil	.....	.....	58,287	8,398	.....	1,174
Gasoline	.....	.....	112,474	16,068	.....	62,530
Kerosene	.....	.....	83,084	11,869	.....	14,370
Lubricants	.....	.....	3,521	503	.....	.....
Coastwise-domestic:						
Fuel oil	235,430	39,233	176,758	25,251	235,430	43,482
Diesel and gas oil	.....	.....	.....	.....	.....	10,490
Gasoline	.....	.....	163,429	23,347	.....	.....
Kerosene	.....	.....	44,377	6,340	.....	.....

Kettleman North Dome

The Union Oil Co., which is attempting to develop Eocene production in the Kettleman North Dome field, has reached a depth of 10,975 feet in No. 1 Lillis-Welsh, an outpost located in the extreme western end of the Kettleman anticline, but has not yet logged the pay. An open hole test was recently made at 10,946 feet but the outcome was negative. No decision has been reached as to the depth at which drilling operations will be suspended or another production test made as this depends upon the condition of the hole and the outlook from a production standpoint. The bit in this hole has been in an exceedingly hard sand for the past 70 feet, which appears to be too tight to produce oil in commercial quantities. The failure of No. 1 Lillis-Welsh to pick up the zone which looked so promising during initial drilling operations is rather surprising but this may be due to the possibility that the present hole may have deviated from the vertical to such an extent that it will require deeper drilling in order to reach a vertical depth comparable with that attained by the North Kettleman Oil & Gas Co. The status of No. 1 Lillis-Welsh is rather unfavorable although additional depth may change the aspect of the situation.

The Kettleman North Dome Association completed its No. 6-20-J, flowing 655 bbls. of clean 37.1 gravity oil per day from 8,177 feet after the hole had been plugged back from from 8,201 feet and finished with a 6⅝-inch liner carrying 105 feet of perforated. In addition to the oil produced, this well is making 1,690,000 feet of gas per day.

Developments in the Middle Dome of Kettleman Hills during the past few weeks have not been especially favorable, although the new well of the Petroleum Securities is capable of doubling its production if necessity demanded. Development work in the Middle Dome indicates this field is of secondary importance from a production standpoint. The Standard Oil Co. was unable to successfully complete its No. 38-29-V and drilling operations were suspended at 7,760 feet after the hole had been plugged back from 7,885 feet due to a rather complicated water problem.



The Three Lake gas field in Kings County, California

Ventura County

The Union Oil Co. is working on a deep test in Ventura County that shows considerable promise from a production standpoint and consequently operators are watching work on this project with considerable interest. The test is No. 10 Dryden in the Bardsdale district, which was recemented a few days ago at 5,250 feet. This well, which is believed to have been bottomed in the Eocene, has shown sufficient gas pressure to justify the expectation that it may result in commercial production as soon as an effective water shut off has been secured. The Texas Co. has just about completed preparations to spud in No. 129 Shiells in the Shiells Canyon district of Ventura County, where the company drilled an unsuccessful deep test during 1935. No. 128 Shiells, which was plugged back and completed in the upper zone, showed the company's geological department enough to warrant the drilling of a second test. No. 128 Shiells encountered mechanical trouble at the critical point and consequently the company was unable to conclude a satisfactory production test of a zone that showed more than the usual promise.

Elwood Field

The Elwood field of Santa Barbara County has been the center of attraction during the past several days due to preparations of the Barnsdall Oil Co. to make a production test on No. 12 Luton Bell, which has been bottomed in the Eocene at 7,157 feet. The interest which attaches to the projected production test on this well lies in the fact that the oil zone found in the Eocene shows considerable promise and will therefore be of paramount importance to operators in the Elwood field if substantial production is developed. The Sespe formation in this field has not come up to expectations and consequently the Eocene will exert a decided effect on future production of the field if it proves highly productive. Several other wells in this district have been tentatively scheduled for completion in the Eocene and in as much as the Barnsdall and Rio Grande are rigging up No. 16 Luton Bell and No. 7 on tideland permit No. 88 preparatory to being deepened, it is logical to assume that they, too, may be carried down to the new deep zone.

The Continental Oil Co. No. 1 Hobson, in section 15-3-24, north of the San Miguelito field, proved wet following the landing of an 11¾-inch water string at 4,425 feet and as a consequence drilling operations have been resumed. It was definitely determined that the formation was wet

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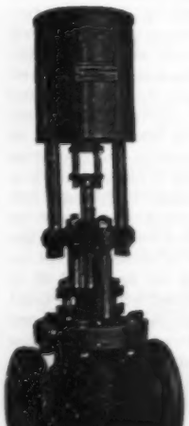

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below the shoe on the water string and the oil sand found in the interval between 4,425 feet and 4,824 feet, the bottom of the hole, and therefore clean production could not be developed.

The Associated Oil Co. is redrilling No. 133 Lloyd, a projected completion in the deep 57 zone in the Ventura Avenue field, and if normal progress is recorded this well should be ready for a production test within the next 60 days. This well is bottomed at 9,218 feet and the crew is redrilling to remove a number of tight spots at 6,540 feet.

Tracy Gas Field

The Amerada Petroleum Corp. finished two gas wells in the Tracy gas field of San Joaquin County, although one of these projects did not come up to expectations from a production standpoint. This was No. 1 F.L.D. in section 15-2-5, which was carried down as a deep test and then plugged back following the failure to discover any indications of oil. It was bottomed at 9,690 feet and plugged back to 4,070 feet, after which the 13⅜-inch water string landed at 5,680 feet was perforated at 4,005-70 feet, and brought in flowing 6,000,000 feet of dry gas per day. No. 3 F.L.D., started in December, 1935, was completed early this week flowing 65,000,000 feet of natural gas per day from 4,029 feet. This new well has an 8⅝-inch water string landed and cemented at 3,916 feet and was finished with a 6⅝-inch liner carrying 109 feet of perforated. The Amerada has completed tentative plans for the drilling of another well in the Tracy gas field but final decision will not be reached for another few days. The Amerada has two wells on production in the Tracy gas field at the present time but may put No. 3 on production in the immediate future.

The Ohio Oil Co. has completed its second gas well in the Buena Vista Lake gas field of Kern County and is building rig for No. 5-A on the Kern County Land Co. property in section 31-31-26. The Ohio's new completion in this field was No. 4-A on the Kern County Land Co. lease in section 32-31-26. This new producer was brought in flowing 5,100,000 feet of natural gas per day but is capable of substantially increasing production. This field has not yet been connected up with transmission facilities of either the Southern California Gas Co. or the Pacific Gas & Electric Co. and consequently the Ohio Oil Co. was not especially concerned with the possible maximum potential of the well. No. 4-A, the Ohio's new well on the Kern County Land Co.'s property, was bottomed at 4,221 feet and finished with a 7-inch water string landed at 4,183 feet and 4¾-inch liner including 49 feet of perforated.

Kings County

The Union Oil Co. recently spudded in No. 1 Giannini, a wildcat in the Tulare Lake region of Kings County in section 28-22-20, and the company has just resumed drilling operations following the landing and cementing of 13⅜-inch casing at 998 feet. No. 1 Giannini is located in close proximity to the Commonwealth Consolidated Gas Co. No. 1, which was completed as a small gas well a year or so ago. It is logical to assume, therefore, that the Union's test in this area will show gas production although the company is ostensibly drilling in search of either oil or gas production. No. 1 Giannini is a joint project of the Union Oil Co. and the Hancock Oil Co. The Royalty Service Corp. No. 1 Spreckles in section 16-24-18 is rotating ahead in a sandy shale at 1,544 feet. The Pure Oil Co. has apparently found the shallow gas zone barren in the Chowchilla gas field as the company has filed an abandonment notice on No. 1 Security, a test in section 6-10-14, which was bottomed at 2,772 feet and subsequently plugged back to 2,500 feet. The company's No. 2 Chowchilla, in section 8-10-14, showed a small quantity of gas after the hole had been plugged back from 5,592 feet to 2,610 feet, but the amount produced was too small to be of commercial importance. It is possible, however, that the Pure Oil Co. may undertake additional development in this area as its first well in the Chowchilla district was brought in flowing approximately 15,000,000 feet of dry gas per day a little more than a year ago. The extreme depth at which this gas was developed, however, may preclude commercial development due to the relatively low price paid for natural gas in the field. The possible gas field in the Chowchilla area is located in close proximity to the county line separating Merced and Madera Counties and consequently subsequent development may lead to the discovery of a commercial accumulation in either or both counties. The Milham Exploration Co. is rotating ahead in No. 1 Boston Land, a wildcat located in section 13-20-18, about 10 miles due east of Huron in Fresno County, but this hole is not yet deep enough to pick up the anticipated pay. This is a joint test of the General Petroleum, Associated and Milham, which is being drilled on a block of approximately 20,000 acres. This work is the result of a comprehensive geophysical survey and No. 1 Boston Land is the second of two tests started in this general area up to the present time. The initial test was abandoned about three weeks ago, having failed to find the gas zone expected to be developed in this area.

North Belridge

Drilling operations in the North Belridge field of Kern County are showing a temporary lull due to the recent completion of new wells by the Union Oil Co. and the Continental Oil Co. and the failure of the former's No. 7 Gibson to prove commercially productive on a recent test in the Eocene. The Union is drilling ahead in No. 7 Gibson at 9,120 feet and in the meantime has withheld drilling authority on No. 20 Belridge, which was rigged up a few weeks ago for immediate work. The present unfavorable outlook of No. 7 Gibson at 9,120 feet casts some doubt on whether the company will drill this well in the near future or extend the present period of suspension. The Belridge Oil Co. suspended drilling operations on its No. 48-A in section 35-27-20 about six weeks ago due to the failure of this project to correlate with definite markers in the field but immediately started two new holes which are at the present time rotating ahead in the characteristic brown shale at 4,600 feet. The Standard Oil Co. is making preparations to drill out the cement in No. 3 McPhail following the landing and cementing of 9⅝-inch casing in this well at 8,250 feet and if a satisfactory water shutoff is effected, this well should be listed for completion within the next 30 days. The Stand-

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ard Oil Co. has been experiencing considerable difficulty with its No. 1 United, a projected deep test under way in the Lost Hills field of Kern County, and is held up with a fishing job which resulted from a twist off which left several stands of drill pipe in the hole. The company failed to secure an effective water shutoff on the 9⅝-inch casing at 5,766 feet notwithstanding that nine cement jobs were undertaken. Approximately 10,000 sacks of cement were placed around the casing in this well without accomplishing the desired result.

Midway-Sunset

Porter & Gibson, who recently completed a pumping well out in the Maricopa Flats section of the Midway-Sunset field in section 6-11-23, have staked location for two additional tests to be drilled in the immediate future. One is located northwest of their initial completion and lease requirements stipulate that drilling operations must be under way not later than February 1. The General Petroleum Corp. is making preparations to resume drilling operations on a wildcat originally started by J. O. Seeple in section 5-30-24. This wildcat is located north of the Elk Hills field and appears to have considerable merit.

Edison

Operators in the Edison field of Kern County are not quite as active as they were a few months ago, but are expected to resume aggressive development within the next 30 days. The Union Oil Co. is rotating ahead in No. 3 Dougherty at 1,183 feet and since approximately 100 feet of oil sand has been penetrated this well should be listed for early completion. The Union has completed two other wells in the Edison field up to the present time and if No. 3 Dougherty results in substantial production, the company will probably start several additional wells in the near future. The A. T. Jergins Trust has No. 2 Hershey in the oil sand at 1,342 feet and this well is expected to be the next completion listed in the Edison field. The General Petroleum has bottomed No. 7 Knapp in Schist at 1,576 feet and a string of 8⅝-inch has been landed and cemented at 1,290 feet preparatory to an early production test.

Mountain View

The Barnsdall Oil Co. added another well to its list of producers in the Mountain View field of Kern County by completing No. 5 Morris flowing 1,761 bbls. of exceptionally clean 31.6 gravity oil per day from 6,046 feet. This new well was finished with a 5-inch perforated liner and has a 7-inch water string landed and cemented at 5,783 feet. Hogan Petroleum Co. and the North American Oil Consolidated have started new wells on the Peters property in section 5-31-29 and both should begin making hole within the next day or two. The former company has a lease on the east half of the 160-acre parcel while the latter has a lease on the west 80 acres. Drilling operations in the Mountain View field seem to be tapering off a little although several new wells are being prepared for early work. The Elliott Core Drilling Co. is making preparations to run a formation tester in its test in the Fruitvale field of Kern County in section 14-29-27 following the finding of an oil sand of undetermined potentiality. Out on the west front of the Kern River field ,the Chanslor-Canfield Midway Oil Co. has completed No. 51 in section 23-28-27 pumping 215 bbls. of 15.1 gravity oil per day from 2,114 feet after the hole had been finished with an 8⅝-inch liner carrying 295 feet of perforated.

Playa Del Rey

The Union Oil Co. No. 14 Vidor, a recent completion in the Playa Del Rey Field of Los Angeles Basin, was considerably smaller than previous completions on this property but this is perhaps due to its structural location. This new well was brought in pumping 220 bbls. of relatively clean 22.4 gravity oil per day from 6,264 feet. The Union is drilling two additional wells in this field at the present time and one of these projects, No. 12 Del Rey, should be tanking oil within the next fortnight.

In the Santa Fe Springs field of Los Angeles Basin, the Union completed No. 90 Bell but this new well, which showed an initial daily production of 229 bbls. of 34.8 gravity oil per day from 4,590 feet, is registering a cut of about 20 per cent. The company is running five strings of tools in this field at present and is building new rigs for three additional wells which are scheduled to be spudded in within the next 15 days.

Two wells were put on production in the Long Beach field during the current week and both of them were rather unsatisfactory. The Continental Properties, Inc., completed its No. 1 Signal after plugging back the hole from 4,959 feet to 4,648 feet, but it only proved good for 71 bbls. of 21.4 gravity oil per day. In addition to the small production registered by this new well, the output is cutting 52 per cent. It is quite probable that some remedial work may be undertaken in order to overcome the water problem if possible. The Texas Co. No. 5 Robinson, the other well put on production in the Long Beach field this week, was recompleted pumping 224 bbls. of 23.9 gravity oil per day from 5,290 feet after the hole had been redrilled and deepened. The production of this rejuvenated well is cutting 38 per cent indicating an ineffective cement job at 5,214 feet.

In the Inglewood field of Los Angeles Basin, the Standard Oil Co. No. 34 on Vickers lease No. 1 was not up to the standard set by other previous completions as the output, 256 bbls. of 18.1 gravity oil per day, is cutting approximately 22 per cent. This new well was finished at 3,100 feet after the hole had been plugged back from 3,190 feet.

British American Work

TORONTO, Ontario, Jan. 18.—A review of the operations of the British-American Oil Co. in 1935 shows the year was marked by the extension of its services into the Maritime provinces and British Columbia. Marketing facilities in both these areas are to be further improved. The company's western refineries at Moose Jaw, Saskatchewan, and Coutts, Alberta, are manufacturing entirely from Montana oil, the company having its own crude production in the Cut Bank field. It is planning to become a factor in the production and utilization of Turner Valley crude, and is building an absorption plant in the south end of Turner Valley. The company has been signally successful in pioneering the new north and west extension to the Wilcox sand zone of the Oklahoma City field.

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Kansas Developments

32 COMPLETIONS IN KANSAS AND 34 NEW WELLS STARTED

By
DAL DALRYMPLE

The week's field record for Kansas included 32 completions, ranging in size from 5-bbl. pumpers to Shell Petroleum Corp. No. 4 Scroggins-A, SE SE NW section 14-32-2, in the Oxford pool of Sumner County, which established a potential production of 11,042 bbls. of oil. The large number of completions was offset by work starting at 34 locations, including some old wells being deepened. All of the new activity was in proven areas. Most major and independent operators have approved their 1936 budgets, and all indications are that work will continue at a rapid pace in both wildcat and proven districts.

Location has been staked and rig built for a western outpost that will be watched with considerable interest. It is L. F. Myers and others No. 1 Beaty, C NE SW section 28-25-36w, south of Lakin in Kearny County. It is 13 miles west of small gas production in the Holcomb pool in Finney County, and is the most westerly test in Kansas. It is south and west of Atlantic Oil Producing Co.'s wells in the Shallow Water pool of southern Scott County, now the farthest west production in the state. Several dry holes have been drilled in Hamilton County, between Kearny County and the Colorado border. In 1921, Mins & Inge No. 1 Bower, SW SW SW section 9-25-37w, was abandoned at 800 feet, and is thought to be the only previous test drilled in Kearny County.

Rice County

Five completions in Rice County were reported for the week. Slick, Pryor & Lockhart and others No. 2 Habiger, NW NW SE section 27-18-10w, in the Orth pool, had Kansas City lime at 2,842 feet; Quartzite at 3,168-71 feet; total depth 3,248 feet; plugged back to 3,172 feet, made a potential of 58 bbls. of oil and was completed. Keith and others No. 5 Volkland, SW NW SE section 20-19-9w, in the Chase area, had Siliceous lime at 3,258-80 feet, total depth, and after acidizing established a 24-hour potential of 464 bbls. of oil.

In the Raymond area, Skelly Oil Co. No. 1 Graham, SW SE SE section 16-20-10w, made a potential of 1,489 bbls. of oil from Siliceous lime at 3,344-47 feet, total depth. Phillips Petroleum Co. No. 7 Mezger, NE NW NE section 21-20-10w, had Siliceous lime at 3,348-56 feet, total depth, and on potential test produced 1,030 bbls. of oil. In the Keesling district, Mid-Continent Petroleum Corp. No. 5 Hartle, NW SE NW section 15-20-9w, produced from Siliceous lime at 2,226-30 feet, total depth 3,240 feet, making a potential of 1,275 bbls. of oil in 24 hours.

New work in Rice County included the following: Empire Oil & Refining Co. No. 3 Guldner, SE SW SW section 9-18-9w, building rig; Duwe & Schneider No. 1 Wright, NE NE NE section 36-21-7w, an old well that made no further progress than digging cellar, building rig; Herndon Drilling Co. No. 1 Smith, NE NW SE section 16-20-9w, location; Slick, Pryor & Lockhart No. 1 Mezger, SW SE NE section 21-20-10w, old well deepened from 3,367 feet to total depth of 3,964 feet, water disposal; Slick, Pryor & Lockhart No. 2 Mezger, NW NE NE section 21-20-10w, location; same operators No. 3 Mezger, SW NE NE section 21-20-10w, location; Phillips Petroleum Co. No. 8 Mezger, SE NW NE section 21-20-10w, cellar; Bradley Oil Co. No. 2 Wendell, SW NE NE section 32-19-10w, building rotary rig; same operator No. 3 Wendell, SW SE NE section 32-19-10w, location; Gypsy Oil Co. No. 2 Stoltz, SW SE NW section 32-19-10w, location; Hutchinson Oil Co. No. 2 Wendell, NE SW NE section 32-19-10w, building rig (previously reported as H. J. Wilson and others No. 2 Wendell).

Vickers Petroleum Co. and others No. 2 Guldner-A, NW NE NW section 16-18-9w, topped Siliceous lime at 3,234 feet; had the pay at 3,241-43 feet, total depth, and oil stood at 3,200 feet in the hole. It had not been tested.

C. E. Skiles and others No. 1 Edwards, NW NW NE section 3-18-8w, wildcat west of Geneseo in northern Rice County, topped Siliceous lime at 3,278 feet; total depth 3,281 feet; and 2,500 feet of 42 gravity oil rose in the hole in five hours. It had not been tested.

Phillips Petroleum Co. and Indian Territory Illuminating Oil Co. No. 10 Krampe, C E half NW SE section 31-19-10w, in the Steckel pool, had Siliceous lime at 3,304-06 feet; pay at 3,324-26 feet; total depth 3,328 feet; produced 118 bbls. of oil on potential test, and was to acidize.

Gypsy Oil Co. No. 4 Coffman, NE NW SW section 2-20-9w, had Siliceous lime at 3,235-38 feet; total depth 3,295 feet; swabbed 45 bbls. of oil and 446 bbls. of water in 15 hours. Same operator No. 2 Dick, NE NW SW section 15-20-9w, Siliceous lime at 3,223-37 feet; total depth 3,252 feet, swabbed 88 bbls. of oil, and was shot at 3,236 feet, but had not been tested.

Barton County

Gypsy Oil Co. completed a producer at its No. 1 Zahorsky, SE cor. section 14-20-11w, in the Steckel area of Barton County. Siliceous lime was encountered at 3,274-79 feet, total depth 3,315 feet; it was acidized and made a potential production of 764 bbls. of oil, cutting one-half of 1 per cent water. Lario Oil & Gas Co. and Indian Territory Illuminating Oil Co. No. 1 Zahorsky, NE cor. section 23-20-11w, found Siliceous lime at 3,286-89 feet; had a hole full of water at 3,364 feet, total depth; plugged back to 3,313 feet, failed to make a producer after shooting with 80 quarts, and was dry and abandoned.

New work in Barton County: Gypsy Oil Co. No. 6 Steckel, NE SE NE section 1-20-11w; Magnolia Petroleum Co. No. 4 Steckel, SW SW NE section 1-20-11w, moving in material.

Magnolia Petroleum Co. No. 3 Steckel, SE NW NE section 1-20-11w, in the Barton County part of the Steckel pool, topped Siliceous lime at 3,282 feet; total depth 3,291 feet; was acidized and established a potential of 379 bbls. in 24 hours.

Estimated Production

Estimated daily average production of Kansas for the week ending January 18 and for the preceding week is as follows:

	Barrels	
	Jan. 18	Jan. 11
Oxford City	7,375	7,600
Burrton	12,675	13,100
Ritz-Canton	7,150	7,275
Hollow-Nikkel	5,025	5,125
Voshell	3,375	3,400
Ellsworth County:		
Lorraine-So. Lorraine	9,263	11,938
Other pools	2,208	2,020
Rice and Barton Counties:		
Chase	8,434	10,590
Raymond	3,121	1,795
Steckel-Isern	6,076	5,520
Keesling	1,743	1,530
Miscellaneous Rice	3,159	2,720
Miscellaneous Barton	1,617	1,160
Russell County:		
Fairport	2,822	3,365
Gorham	3,032	4,015
Russell	3,170	2,920
Other pools	3,406	3,100
Sedgwick:		
Valley Center	1,367	1,400
Greenwich	1,426	1,450
Robbins	1,704	1,840
Eastborough	907	950
Other pools	654	705
Ellis County	422	636
Kingman County	751	740
Stafford County	1,883	1,420
Greenwood County	10,500	10,500
Butler County	17,500	18,000
Other fields	18,910	18,536
Total Kansas	139,675	143,350

Sumner County

The week's record of completions went to Sumner County, with six producers. Slick and others No. 5 Peasel, C N half N half NW section 33-31-1w, in the Wellington pool, had Chat at 3,649-51 feet; total depth 3,689 feet, and made a potential of 233 bbls. of oil. Same operators No. 6 Peasel, NE NE NW section 33-31-1w, flowed 651 bbls. of oil after acidizing; Chat was found at 3,628-38 feet, total depth 3,671 feet. Derby Oil Co. No. 1 Reitz, an old Churchill pool well, deepened from 1,892 feet, had Siliceous lime at 2,663-80 feet; hole full of water at 2,707½ feet; plugged back to 2,702 feet, shot and treated with acid but not tested; plugged back to 2,335 feet, ripped casing at 2,177-2,225 feet, flowed 798 bbls. of oil on potential test, completed.

In the Oxford area, T. M. Deal Oil & Gas Co. No. 1 Long Bell Lumber Co., CSL SE SE section 11-32-2, topped Kansas City lime at 2,535 feet; total depth, 3,078 feet; was acidized and on potential test produced 293 bbls. of oil. Shell Petroleum Corp. No. 3 Emrich, deepened

District where C. E. Skiles and associates apparently have opened a pool west of Geneseo in northern Rice County
(Mid-Continent Map. Co., Wichita, Kans.)

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from old total depth of 2,086 feet, found Dolomite at 2,852-56 feet, total depth 2,958 feet; acidized with 4,000 gallons and made a potential of 954 bbls. of oil, with a showing of water. Same operator No. 4 Scroggins-A, SE SE NW section 14-32-2, had Dolomite at 2,816-20 feet, total depth 2,897 feet; was acidized with 3,000 gallons and then 8,000 gallons, established a potential production of 11,042 bbls. of oil and was completed.

Two new Sumner County tests both were in the Oxford area. They are the Shell Petroleum Corp. No. 15 Emrich, SW SW NE section 14-32-2, a rig, and Larlo Oil & Gas Co. and Barnsdall Oil Co. No. 15 Wenrich SW SE NW section 23-32-2, a location.

Roy Ramsey No. 1 Town Lot, NE NW NE section 14-32-2, in the Oxford area, deepened from old total depth of 2,116 feet; had Simpson Dolomite at 2,880-82 feet, total depth 2,899 feet, and swabbed 165 bbls. of oil in two hours. Shell Petroleum Corp. No. 1 Nevitt, SE NW NE section 14-32-2, topped Dolomite at 2,888 feet; was shot with 10 quarts at 2,908-23 feet, and swabbed 75 bbls. of oil with no water in one hour. Shell Petroleum Corp. No. 1 Scroggins-C, SE NW SW section 14-32-2, had Simpson Dolomite at 2,892 feet; total depth 2,985 feet, and swabbed 37 bbls. of oil in 24 hours.

Russell County

Three wells were completed in Russell County. Phillips Petroleum Co. and Indian Territory Illuminating Oil Co. No. 1 Wineteer, SW SW SE section 19-13-14w, was acidized and on potential test produced 396 bbls. of oil and 132 bbls. of water. It had Oswald lime at 2,972 feet, total depth 3,018 feet.

In the Gorham area, Bridgeport Machine Co. No. 2 Witt, SE NW SW section 3-14-15w, found Oswald lime at 3,035 feet; pay, 3,104-12 feet, total depth; was acidized and on potential test produced 1,168 bbls of oil.

Stanolind Oil & Gas Co. No. 21 Benso, NE SW SW section 4-14-15w, established potential production of 138 bbls. of oil, producing from Oswald lime topped at 3,044 feet, total depth 3,072 feet.

The following new work was starting in Russell County: Tom Palmer No. 3 Woelk, SE SW NW section 22-13-14w, rig; Hartman & Blair and others No. 1 Boxberger, NE NE NW section 33-13-14w, moving in material; Texas Co. No. 2 Gurney, NW SW NE section 23-14-14w, location; Gypsy Oil Co. No. 2 Ehrlich, SE SW NW section 1-14-15w, rigging up; Texas Co. No. 2 Anschutz, SW NW SW section 1-14-15w, location; Empire Oil & Refining Co. No. 2 Crawford, SW cor. section 2-14-15w, building rig; Bridgeport Machine Co. No. 3 Witt, SW NW SW section 3-14-15, cellar; Central Petroleum Co. No. 2 Witt, SE cor. section 3-14-15w, rigging up (previously reported in SE SW SE section 3-14-15w).

Joe Aylward No. 1 Ginther, SW SE NW section 19-12-15w, in the Fairport pool, topped Oswald lime at 3,002 feet; total depth, 3,055 feet, swabbed 5 bbls. an hour for eight hours and was acidized with 4,000 gallons, but had not been tested.

Phillips Petroleum Co. No. 3 Holland, C E half SW SW section 13-14-15w, in the Neidenthal area, had Siliceous lime at 3,268-75 feet, and oil rose 2,400 feet in the hole, but it had not been tested. Same operator's No. 1 Hall, SE NE SW section 36-14-15w, had Oswald lime at 2,982 feet, corrected, total depth, 3,022 feet; established a potential of 73 bbls. of oil and was to be acidized. Same operator's No. 1 Rexroot, SE SW SW section 30-14-14w, found Siliceous lime at 3,162-68½ feet, had 2,700 feet of oil in the hole but had not been tested.

Smoky Hill Oil Corp. No. 3 Miller, NE NW NE section 31-14-13w, topped Oswald lime at 2,870 feet; averaged 2 bbls. of oil an hour at 2,897 feet, and was acidized, but had not been tested.

Skelly Oil Co. No. 1 Kleusner, SW SW NE section 34-15-12w, topped Siliceous lime at 3,326 feet, corrected; total depth, 3,335 feet; swabbed 105 bbls. of oil in three hours.

Ellsworth County

Empire Oil & Refining Co. No. 2 Dees, SE NW NW section 23-17-9w, in the South Lorraine sector of Ellsworth County, was completed as a producer from Siliceous lime, found at 3,171-84 feet, making a potential production of 339 bbls. of oil in 24 hours.

One new location was reported in Ellsworth County. It was Carter Oil Co. and others No. 2 Melchert, NE NW SE section 23-17-9w.

Reno County

Shell Petroleum Corp. second well in the Reece pool, Reno County, No. 1 Lee, C E half E half SE section 10-26-9w, flowed 5,614 bbls. of oil and 6 per cent water in 24 hours and was completed, to make it the biggest Viola lime producer to be completed west of the Granite Ridge in Kansas. Lime was topped at 4,145 feet; total depth 4,158 feet. Originally, it flowed 3,604 bbls. of oil and produced 1,360,000 feet of gas in 24 hours, the increase resulting from acidization.

Shell Petroleum Corp. staked location for No. 2 Danton, C NW NE section 16-24-4w. Phillips Petroleum Co. and Vickers Petroleum Co. No. 1 McElwain, C NW SE section 10-24-4w, was a cellar; Olson Drilling Co. and Shell Petroleum Corp. No. 3 Rudicel, C SE SW section 24-23-4w, a location.

Marathon Oil Co. No. 1 Bontrager, NE NE NE section 33-24-5w, had Chat at 3,385 feet, corrected; at 3,740 feet it produced at the rate of 5 bbls. of oil an hour and 12,000,000 feet of gas, and was drilling ahead.

Sinclair-Prairie Oil Co. No. 2 Matlock, NE NE SW section 3-24-4w, had Chat at 3,262-67 feet; total depth 3,357 feet, and produced 110 bbls. of oil in 14 hours and 18,000,000 feet of gas. Skelly Oil Co. and others No. 1 Chesshire, NW NW SE section 3-24-4w, topped Chat at 3,265 feet; and at total depth of 3,370 feet flowed at the rate of 3 bbls. of oil an hour, cutting 1 per cent basic sediment.

Rush County

A small gas well was completed in the Otis gas field of Rush County by Olson Drilling Co., with its No. 1 Schmidt, C SE quarter section 4-18-16w. LaMotte sand was topped at 3,513 feet; total depth 3,546½ feet in granite; plugged back to 3,518 feet, and, after shooting and acidizing, it produced 450,000 feet of gas.

Stafford County

The only Stafford County completion was in the Richardson pool. It was Stanolind Oil & Gas Co. No. 1 Spangenberg, NW cor. section 29-22-11w, which had Siliceous lime at 3,580-87 feet; total depth 3,632 feet, where water showed; plugged back to 3,625 feet, was treated with 4,000 gallons of acid and made a potential of 835 bbls. of oil.

Ellis County

Tom Palmer and Storm King Oil Co. have another good producer in the pool they recently opened in Ellis County at their No. 3 Ruder, SW NW NE section 17-15-18w. Oswald lime was topped at 3,237 feet, total depth 3,285 feet. After acidizing it pumped 1,255 bbls. of oil in 20 hours and then established potential production of 1,506 bbls. of oil.

Two new tests in Ellis County were reported. They are Tom Palmer and Storm King Oil Co. No. 4 Ruder, NW SW NE section 17-15-18w, location, and Twin Drilling Co. No. 1 Sander, NE NE NW section 10-14-17w, rig.

McPherson County

McPherson Oil & Gas Co. No. 4 Chindberg, SW NW NW section 32-18-2w, in the McPherson pool, established potential production of 245 bbls. of oil, two-day average, producing from Kansas City lime topped at 2,308-16 feet, total depth 2,327 feet, and was completed.

Harvey County

Sunray Oil Co. No. 1 Hege, SW NW SW section 13-22-2w, in northern Harvey County, produced gas estimated at 9,000,000 feet and was completed at a total depth of 2,960 feet; Chat was found at 2,920-25 feet.

Butler County

Vickers Petroleum Co. and Sanford No. 3 Joseph, SW NW NW section 2-25-3, in the Potwin-Brainerd area of Butler County, drilled to a total depth of 2,728 feet, was given acid treatment, and made a potential of 105 bbls. of oil, four-day average. Vickers Petroleum Co. No. 2 McCraner-D, C W half NW NE section 2-25-3, made a potential of 120 bbls. of oil, four-day average, after acidizing, total depth 2,712 feet. Empire Oil & Refining Co. No. 17 Gussman, C N half NE NE section 18-26-5, in the Eldorado pool, deepened from old total depth of 1,987 feet, had Siliceous lime at 2,399-2,404 feet, total depth 2,430 feet, was shot and acidized, produced 15 bbls. of oil in 24 hours and was completed.

Western Kansas Oil & Refining Co. No. 1-A Furman, NW SE SW SW section 8-23-4e, in the Elbing pool, at 2,085 feet, was acidized and pumped 310 bbls. of oil in 31 hours, cutting 3½ per cent water.

Trego County

Alma Petroleum Co. and McNeely No. 2 Rhoades Estate, C NW NE section 14-11-23w, in the Wakeeney pool of northern Trego County, had Kansas City lime at 3,450-3,519 feet, total depth, with 350 feet of oil in the hole. It was acidized with 2,000 gallons but had not been tested.

Woodson County

One Woodson County well, reported for the first time, was a completion. It was the Saco Oil Co. No. 2 Klick, NE SW SW section 20-25-14, which had sand at 1,383-1,432 feet, total depth, and flowed 205 bbls. of oil on completion test.

New Woodson County tests were: Saco Oil Co. No. 3 Klick, SE SW SW section 20-25-14, spudding; and Lewis and others No. 1 Riggs, SW SW SW section 10-26-14, deepening from old total depth of 765 feet, drilling at 900 feet.

Sheedy and others No. 2 Nordmyer, C S quarter SE NW section 19-25-14, in the Quincy pool, total depth 1,483 feet; plugged back to 1,463 feet, was shot with 160 quarts and produced 350 bbls. of oil in 24 hours.

Cowley County

Alma Petroleum Co. No. 2 Finch, SE SW NE section 7-35-3, new test in Cowley County, was a rig.

Greenwood County

Oko Oil Co. No. 14 Shadel, C N half SE SE section 15-23-13, Greenwood County, topped lime at 1,772 feet, had pay at 1,788-1,806 feet, total depth, was acidized, pumped 15 bbls. of oil a day and was completed. Shaffer & Howell No. 3 Sauder, SE SE NE section 16-23-13, pumped 50 bbls. of oil and 35 bbls. of water after acidizing lime topped at 1,740 feet, pay at 1,758-73 feet. Barbara Oil Co. No. 16 Pixley, SW NW SW section 8-22-10, in the Pixlee pool, found sand at 2,301-24 feet, total depth, was shot and pumped 60 bbls. of oil in 24 hours, completed.

One new test in Greenwood County was reported. It was Markus and others No. 4 Smith, NE NW NE section 6-24-12, a location.

Coffey County

Franklin Drilling Co. has a 50-bbl. pumper in its No. 1 Rossillion, SE cor. section 1-23-14, in the Van Noy pool of Coffey County. Deepened from old total depth of 1,204 feet, it topped Mississippi lime at 1,497 feet and was completed at 1,538 feet, total depth. Conley & Cooper No. 6 Estes, C E half NW NW section 7-24-14, topped lime at 1,688 feet, had pay at 1,712-30 feet, total depth 1,731 feet, was acidized and completed as a 50-bbl. pumper.

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INDICATED DOMESTIC DEMAND FOR CRUDE PETROLEUM

(Thousands of barrels of 42 gallons)

Domestic petroleum by fields of origin:	October, 1935 Total	October, 1935 Daily av.	Sept., 1935 Total	Sept., 1935 Daily av.	Jan.-Oct., 1935	Jan.-Oct., 1934
Appalachian:						
Pennsylvania Grade	2,276	73.4	2,215	73.8	21,185	20,597
Other (inc. Ky.)	622	21.1	637	21.2	6,093	5,746
Lima-NE Ind.-Mich.	1,722	55.6	1,467	48.9	12,891	10,018
Ill.-SW Ind.	608	19.6	639	21.3	4,581	4,160
Mid-Continent:						
N. La. and Ark.	1,923	62.0	1,880	62.7	15,841	18,574
W. Tex.-SE New Mex.	6,800	219.3	7,011	233.7	62,414	58,913
East Texas	16,487	531.8	16,136	537.9	154,572	165,723
Other Okla., Kans., N. Tex., etc.)	30,320	978.1	*30,405	1,013.5	296,722	260,611
Gulf Coast	8,651	279.1	*8,297	276.6	77,948	66,265
Rocky Mountain	2,029	65.5	1,973	65.8	17,496	13,850
California†	19,231	620.4	16,558	551.9	159,609	138,102
Total demand	90,693	2,925.6	87,218	2,907.3	839,352	762,585
Exports	4,810	155.2	4,971	165.7	42,991	34,010
Domestic demand	85,883	2,770.4	82,247	2,741.6	786,361	728,575
Foreign petroleum	3,183	102.7	2,895	96.5	27,940	29,244
Total domestic demand	89,066	2,873.1	85,142	2,838.1	814,301	757,822

*Revised. †Demand less net transfers from crude.

Oklahoma Operations

By
DAL DALRYMPLE

WELL IN FITTS POOL FLOWS 1,657 BARRELS IN ONE HOUR

Oklahoma oil interest again was directed to Love County, with work starting on the third wildcat for that county. The new test is the J. Ben Russell and Winkler-McQueen No. 1 Scott, SW SE SW section 28-8s-2e, down in the "peninsula" area, within a few miles of the Texas border and with the Red River east, south and west of it. Operators were moving in material for a 3,500-foot test. It is on a 3,500-acre block assembled by Russell in the latter part of 1935.

In the Oswalt area of northwestern Love County, Sinclair Prairie Oil Co. was due to resume drilling at its No. 1 Stockton, SE SE SW section 26-6s-2w, which has been shut down for a cement job at 5,400 feet. Cavings, following a washing-over process resulting from stuck pipe, made the cementing job necessary. Drill pipe was to be whipstocked and drilling resumed. Old total depth was 7,165 feet in shale. In the northeastern part of the county, Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1-A Westheimer-Daube, SW SE SW section 26 6s-2e, was drilling around 4,560 feet in shale. Both tests have had showings of oil.

Features of the week in proven areas were E. H. Moore and associate's big Wilcox sand producer in the Fitts field of Pontotoc County and the Superior Oil Co. producer in the Capitol extension zone of the Oklahoma City field. E. H. Moore and others No. 6 Benton, SW NE NW section 32-2-7, had Wilcox sand from 4,330 to 4,370 feet, total depth, produced 1,657 bbls. of oil in one hour and was shut in; it was considered the biggest producer in the Fitts field, which now has eight oil or gas pay formations—Gilcrease sand, Cromwell sand, Hunton and Viola limes, Bromide first and second sands, McLish and Wilcox sand. At Oklahoma City, Superior Oil Co. No. 1 Sibley, NW SW SW section 23-12-3w, total depth 6,375 feet, flowed 1,994.44 bbls. of oil in the last four hours of a test, to give it a potential rating of 11,-966.64 bbls.

Pontotoc County

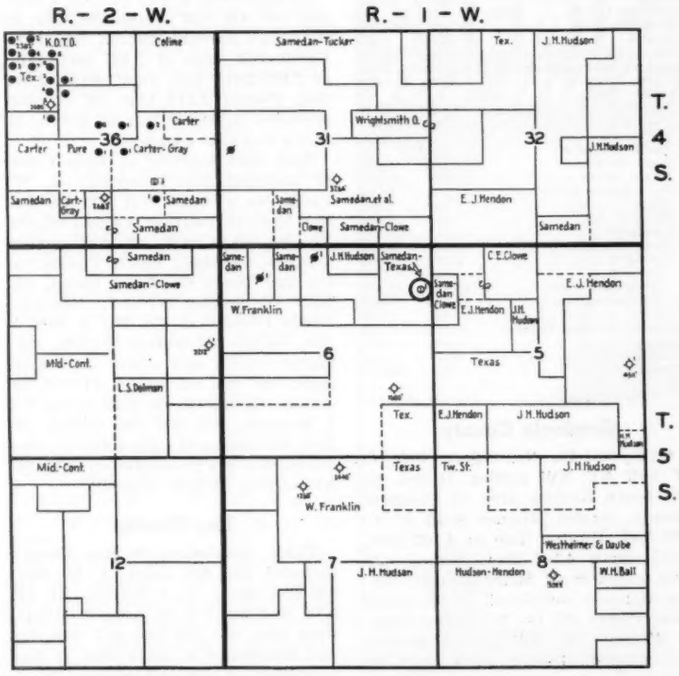
Mexhoma No. 4 Butler, W half SW SW section 21-5-8, in the Allen pool of northeastern Pontotoc County, was completed as an Allen sand gas well at 979 feet, total depth. Sand was topped at 805 feet. It produced 3,000,-000 feet of gas.

Nine completions were listed in the Fitts area, all in Township 2n-7e. Boettcher Oil & Gas Co. No. 2 Burris, SE NE NW section 27-2-7, produced 8,000,000 feet of gas from McAllister gas sand and was completed. Sand was topped at 1,270 feet, total depth 1,291 feet; had hole full of water, plugged back to 1,206 feet and was shot 10 times at 1,175-85 feet.

Amerada Petroleum Corp. No. 4 Smith, NW SE NW section 28-2-7, topped Bromide at 3,960 feet; McLish, 4,170 feet; total depth, 4,285 feet, made a potential of 2,671 bbls. of oil and produced 1,389,000 feet of gas. Carter Oil Co. No. 6 Smith, SW NE SW section 28-2-7, found Bromide at 3,850 feet, McLish at 4,055 feet, total depth 4,300 feet, and established a potential of 2,435.67 bbls. of oil. Magnolia Petroleum Co. No. 4 Simpson, deepened from old total depth of 4,223 feet, topped McLish formation at 4,260 feet, total depth 4,280 feet, flowed 254 bbls. of oil the first hour and 234 bbls. the second hour. Fleetborn Oil Co. No. 2 Smith, NE SE NE section 31-2-7, faulted from Caney into McLish at 4,190 feet, topped basal McLish sand at 4,380 feet, total depth 4,423 feet, and flowed 1,176 bbls. of oil in six hours through tubing; gas gauged 12,760,000 feet.

New Work

Work was starting at several new Pontotoc County tests, including the



Area in which Texas Co. and others wildcat test is favorably regarded as possible pool opener southeast of Hewitt
(Mid-Continent Map Co., Tulsa.)

establishing a potential production of 3,075 bbls. of oil, with gas measuring 938,000 feet.

E. H. Moore and others No. 1-A Wirick, SE SE SW section 29-2-7, was given a potential rating of 3,176 bbls. of oil and gas gauged 4,824,000 feet. Production was from Bromide, topped at 3,828 feet, and McLish, found at 4,070 feet, total depth 4,084 feet. Carter Oil Co. deepened the No. 8 Richards, NE NE SE section 30-2-7, from 4,229 feet to 4,407 feet, total depth, and it flowed 332 bbls. of oil the first hour and 271 bbls. of oil the next hour. Their No. 9 Richards made a potential of 3,283 bbls. of oil when deepened from 4,145 feet to 4,-383 feet, total depth.

Stanolind Oil & Gas Co. No. 9 Harden, SE SW SW section 30-2-7, old total depth 4,140 feet, was deepened to Dense lime at 4,380 feet and

following: Fleetborn Oil Corp. No. 1 Morin, SE SE SE section 20-2-7, rig; same operator's No. 4 Wooley, SW NE SE section 28-2-7, rig; Skelly Oil Co. No. 6 Park College, NE NE NW section 28-2-7, location; E. H. Moore and others No. 5 Harper, SW NW NE section 29-2-7, location; same operators' No. 11 Schauers, SW NE NW section 29-2-7, location; same operators' No. 12 Schauers, SE NE NW section 29-2-7, location; their No. 13-A Schauers, NW cor. section 29-2-7, drilling at 289 feet; Carter Oil Co. No. 4 Richards, NW NE SE section 30-2-7, old total depth 4,188 feet, rigging up rotary to deepen; J. E. Crosbie, Inc. No. 3-A Harden, NE cor. section 30-2-7, cellar and pits.

Nearing Completion

Several wells in the Fitts pool were nearing completion. On the east side

Skelly Oil Co. No. 3 Park College, SE NE NW section 28-2-7, topped Bromide at 4,020 feet, McLish at 4,-235 feet, total depth 4,305 feet, and flowed 828 bbls. of oil in four hours through tubing. Stahl Petroleum Co. No. 1 Dennis, SW NE NW section 28-2-7, found McLish horizon at 4,245 feet, total depth 4,276 feet, established a potential of 2,114 bbls. of oil, gas gauging 787,000 feet, and was rigging up rotary to deepen.

E. H. Moore and others No. 9 Schauers, NE SW NW section 29-2-7, topped Bromide at 4,075 feet, McLish at 4,280 feet, Dense lime at 4,378 feet, total depth 4,384 feet; at 4,340 feet it flowed 391 bbls. of oil in one hour and produced 8,000,000 feet of gas; at 4,384 feet it flowed 372 bbls. of oil in one hour, with no increase in gas. Same operators' No. 1 Woodruff, SW NW SE section 29-2-7, deepened from old total depth of 4,156 feet, had sandy Dolomite at 4,230-65 feet, total depth 4,397 feet, flowed 745 bbls. of oil in one and one-half hours and shut in.

Carter Oil Co. No. 6 Harden, NW SE SW section 30-2-7, deepened from 4,120 feet to 4,360 feet, flowed 632 bbls. of oil in 55 minutes through casing and 286 bbls. of oil in two hours through tubing, and was shut in. Their No. 7 Harden, SW SE SW section 30-2-7, deepened from 4,095 feet, had sandy Dolomite and Dense lime at 4,255-85 feet, total depth 4,-340 feet, flowed 486 bbls. of oil in the first hour and 425 bbls. in the second hour through casing and was shut in. Same operators' No. 9 Harden, NE SE SW section 30-2-7, deepened from 4,110 feet to 4,358 feet, was shut in after flowing 555 bbls. in one hour and 257 bbls. in the next 30 minutes through casing. J. E. Crosbie, Inc. and others No. 3 Harden, NE cor. section 30-2-7, topped Bromide at 4,218 feet, first sand at 4,303-18 feet, total depth, was acidized and flowed 445 bbls. of oil, gross, the first hour, 267 bbls. the second hour, and was shut in.

E. H. Moore and others No. 7 Patrick, NE SW NE section 31-2-7, total depth 4,515 feet, plugged back to 4,435 feet, flowed 74.85 bbls. of oil in 15 hours through tubing, cutting 34½ per cent of water and 3 per cent basic sediment; plugged back to 4,400 feet, and was waiting on cement.

Oklahoma County

Pure Oil Co. completed another good producer in the Edmond area in Oklahoma County. No. 4 Malm, SW SE SW section 30-14-3w, had Wilcox sand at 6,614 feet, total depth 6,705 feet, in sand, and established a 24-hour potential production of 6,-569.16 bbls. of oil and 12,143,000 feet of gas.

In the Britton district, Sinclair Prairie Oil Co. No. 1 Tinsley, SE NW

SE section 17-13-3w, flowed 237 bbls. of oil net in 13 hours and was completed at 6,647 feet, total depth, as a producer from Simpson dense topped at 6,545 feet.

In the Capitol extension area of the Oklahoma City field, British-American Oil Co. completed No. 1 Mary Green, SW SW SW section 23-12-3w, in second Wilcox sand, topped at 6,319 feet, total depth 6,400 feet. On the last four hours of completion test it flowed 1,748.80 bbls. of oil, to give it a 24-hour potential of 10,492.80 bbls. Gas measured 5,800,000 feet. Same operator's No. 2 Mary Green, SW cor. section 23-12-3w, had Wilcox sand at 6,321 feet, total depth 6,405 feet, was given a potential of 19,793.64 bbls. of oil by flowing 3,298.94 bbls. in the last four hours of completion test, and was completed.

Phillips Petroleum Co. No. 1 Sheldon, NW SW NE section 34-12-3w, topped second Wilcox sand at 6,445 feet, total depth 6,565 feet, and was completed after establishing a potential of 816.24 bbls. of oil on gas lift.

New work in Oklahoma County was confined to the Oklahoma City area. British-American Oil Co. made location for No. 1 Hayes Highland, SE NE SE section 22-12-3w, and No. 2 Kirsch, NE SW SW section 23-12-3w. Barnsdall Oil Co. No. 3 Bracht, NE SW SW section 23-12-3w, had rig on the ground, and cellar was dug for No. 4 Bracht, SE NW SW section 23-12-3w. British-American Oil Co. was digging cellar and pits for No. 4 Piersol, NE SE SE section 22-12-3w.

Superior Oil Co. of California No. 1 Sibley, NW SW SW section 23-12-3w, in the Oklahoma City extension area, had Wilcox sand at 6,325 feet, total depth 6,375 feet in sand, and flowed 1,517 bbls. of oil in four hours on gas lift.

Phillips Petroleum Co. No. 1 Inkster, SW SW NE section 34-12-3w, topped second Wilcox sand at 6,375 feet, total depth 6,525 feet, and flowed at the rate of 35 bbls. of oil an hour on gas lift.

Hughes County

Three more Senora sand producers were completed in the Olympic pool of northwestern Hughes County. Fitzpatrick No. 4 Dixon, NE SW NE section 12-9-8, topped sand at 1,727 feet, total depth 1,762 feet, was shot with 40 quarts and flowed 115 bbls. of oil in 24 hours. Manahan Oil Co. and others No. 1-A Tucker, SE cor. section 2-9-8, had sand at 1,702 feet, bailed into water at total depth of 1,763 feet, plugged back to 1,754 feet, was shot with 60 quarts and swabbed 144 bbls. of oil and 48 bbls. of water in 24 hours. Blackwell Oil & Gas Co. No. 4 Oliphant, NE SE SW section 1-9-8, found sand at 1,697 feet, total depth 1,755 feet, shot with 65 quarts, and flowed 400 bbls. of oil in 24 hours.

Phillips Petroleum Co. No. 2 Emma, SE NW NW section 8-6-8, in the Sasakwa area, topped Dolomite at 4,091 feet, Wilcox sand at 4,152 feet, total depth 4,154 feet, flowed 529 bbls. of oil in 2 hours and 49 minutes, and was completed.

Manahan Oil Co. and others were starting two new tests in the Olympic area. They are No. 2 Simmer, NW SW SW section 12-9-8, a cellar, and No. 5 Oliphant-B, SW NW SW section 12-9-8, building rig.

Magnolia Petroleum Co. No. 3 Diamond, NE SW NW section 8-6-8, topped Dolomite at 4,070 feet, had pay at 4,096 feet, Wilcox sand at 4,137-39 feet, total depth, and flowed 524 bbls. of oil in 5 hours and 24 minutes.

Manahan Oil Co. and others No. 4 Dixon-A, SW SW NW section 12-9-8, in the Olympic area, had sand at 1,715 feet, total depth 1,779 feet, was shot with 80 quarts and flowed 35 bbls. of oil in one hour.

Estimated Production

Estimated daily average production of Oklahoma for the week ending January 18 and for the preceding week is as follows:

	Barrels	
	Jan. 18	Jan. 11
Allen	6,500	6,600
Asher-West Asher	925	900
Burbank	7,500	7,500
South Burbank	12,250	12,300
Balance Osage	23,000	23,000
Blackwell	4,825	4,800
Bristow-Slick	8,750	8,700
Chandler	3,675	3,700
Crescent	5,500	5,450
Cromwell	4,125	4,150
Cushing-Shamrock	11,000	11,750
Duncan district	4,150	4,000
Edmond	6,600	7,175
Fish	10,125	10,625
Fitts	33,150	33,050
Gray	1,725	1,850
Graham	3,950	4,000
Healdton	8,975	8,975
Hewitt	4,450	4,450
Holdenville	1,200	1,200
Keokuk	4,175	3,075
Konawa	1,750	1,675
Lucien	10,550	10,500
Marshall-Lovell	950	950
Oklahoma City	141,075	133,200
Papoose	1,175	1,175
Polo	3,500	3,425
Sasakwa and townsite	3,625	3,175
Sholem-Alechem	3,600	3,650
Seminole field:		
Bowlegs	8,850	8,450
Carr City	5,550	3,675
Earlsboro	8,150	7,850
South Earlsboro	950	950
East Earlsboro	10,200	10,000
Little River	14,500	13,800
East Little River	1,125	1,200
Maud	950	1,000
Mission	2,650	2,575
Seminole	11,675	11,750
East Seminole	1,650	1,600
Searight	3,375	4,075
Total Seminole	69,625	66,925
St. Louis-Pearson	22,375	21,225
Tatums	3,700	3,750
Tonkawa-Garber-Thomas	5,775	5,800
Wewoka	3,675	3,675
Yale-Jennings	4,175	4,200
Other pools	56,550	56,550
Total Oklahoma	506,150	486,925

Seminole County

Gypsy Oil Co. No. 1 Scott Fife, C W half NE NW section 11-10-6, in the South Keokuk area of Seminole County, topped Misener sand at 4,148 feet, Hunton lime at 4,162 feet, total depth 4,164 feet, flowed 522 bbls. of oil in 24 hours through tubing and was completed. In the same area, Carter Oil Co. No. 2 Dunaway, C W half NW SW section 11-10-6, encountered Misener sand at 4,184 feet, total depth 4,195 feet, flowed 350 bbls. of oil in 20 hours through tubing and was completed.

Texas Co. No. 8 Mayhue, SE NE NW section 14-9-6, in the Seminole area, had Hunton lime at 3,891 feet, total depth 3,935 feet, was acidized two times, pumped 50 bbls. of oil net in 24 hours and was completed.

Lynch Brothers Drilling Co. No. 1 Hall, NW NE SW section 19-5-6, topped Hunton lime at 2,345 feet, total depth 2,531 feet, was shot, flowed 195 bbls. of oil net in 24 hours, and was completed.

New tests in Seminole County include the following: R. C. Walker No. 1 Able, NE NE SW section 10-9-8, a rig; Vandeventer No. 1-B Bendon, NE NE SW section 3-8-8, old well deepening from 3,254 feet, waiting for cement to set at 3,365 feet, total depth; Sinclair Prairie Oil Co. No. 3 Davis-B, SW NE SW section 7-6-8, rig; M. B. Rudman No. 1-A Bates, SE SE NE section 13-6-7, location, and Fleetborn Oil Corp. No. 1 Cahill, SW NW NE section 7-6-8, location.

Francis Oil Co. No. 2 Welty, NE NE SE section 24-5-5, in the Byng sector of southern Seminole County, total depth 2,559 feet, was shot with 40 quarts and swabbed 10 bbls. of oil in 24 hours.

H. A. Vierson and others No. 1 Jones, SW NE NW section 11-6-6, topped sand at 2,445 feet, total depth 2,458 feet, and flowed 290 bbls. of oil in 16 hours.

Carter Oil Co. No. 1 Kiker, C W half NW NE section 14-10-6, topped Hunton lime at 4,122 feet, total depth 4,151 feet, swabbed 105 bbls. of oil in 14 hours and was acidized.

Osage County

Norbla Oil Co. No. 1 Osage, SE SE NE section 25-24-7, in the Naval Reserve area of Noble County, deepened from 2,848 feet, in Siliceous lime, to 2,858 feet, flowed at the rate of 5 bbls. of oil a day. Peters Petroleum Co. No. 9 Osage, NW SE NW section 32-24-9, flowed and swabbed 50 bbls. of oil and 75 bbls. of water and produced 1,000,000 feet of gas from Hominy-Wilcox sand at 2,480-2,514 feet, total depth. It was deepened from old total depth of 2,482 feet.

Kewanee Oil & Gas Co. No. 4 Renald, NE SW SW section 26-26-6e, in the South Burbank district, found the Bartlesville zone at 2,827 feet, sand at 2,829-2,913 feet, total depth 2,914 feet, flowed 2,213 bbls. of oil and produced 4,500,000 feet of gas in 24 hours and was completed.

New work starting in Osage County included the following: J. W. Fields No. 5 Osage, NW NE SW section 12-21-11, location; Comail Oil Co. No. 10 Osage, SW NE SW section 32-22-8e, location; Lewis Production Co. and Texas Co. No. 4 Osage, SE NE SE section 17-24-7, location; Lewis Production Co. No. 2 Strikeaxe, NE SE NE section 20-24-7e, rig; Carter Oil Co. and others No. 6 Kennedy, NW NE SE section 24-26-6, location; Carter Oil Co. and others No. 7 Kennedy, NE SW SE section 34-26-6, location, and Carter Oil Co. and others No. 6 Transit-Mosier, NW SE NE section 34-26-6, location.

Kay County

Three completions in Kay County included two dry holes. A. D. Morton and others No. 1 Warren, SE SE NW section 19-29-4e, topped Mississippi lime at 3,169 feet and was dry and abandoned at 3,210 feet. It was a wildcat. Kansas-Oklahoma Oil & Gas Co. No. 1-A Wolf, C W half NE SW section 6-28-1, was completed as a 50,000-foot gas well at 1,220 feet, gas production being from 775 feet. Bay Oil Co. and others No. 1 James-A, SW SE NW section 14-28-3, had Mississippi lime at 3,179 feet, total depth 3,182 feet, and was dry and abandoned.

Work was started at two tests in Kay County. Kansas-Oklahoma Oil & Gas Co. No. 1-A Mason, C SE SE section 6-28-1, old well being deepened, was drilling at 920 feet. Same operator's No. 2 Mason, C NE SE section 6-28-1, was drilling at 450 feet.

Noble County

Stanolind Oil & Gas Co. and others No. 2 DeBord-A, SW NE SW section 27-22-2w, in the Polo area of Noble County, produced 1,240 bbls. of oil on potential test and was completed at total depth of 4,871 feet in sand topped at 4,852 feet. Harry Chapple No. 1 Ragon, NW SE NW section 29-21-1w, in the Perry area, failed to make a commercial producer after shooting at 1,700-1,800 feet and was dry and abandoned at 1,805 feet, total depth.

The only new test reported in Noble County was the Gypsy Oil Co. No. 3 Pfeiffer, C S half SW SE section 33-20-2w, building rig.

Twin State Oil Co. No. 4 DeVore, NE NW NW section 27-22-2w, in the Polo area of western Noble County, encountered water at 4,940 feet, total depth; plugged back to 4,917 feet; shot with 20 quarts at 4,907-17 feet; swabbed 285 bbls. in 20 hours, and then flowed at the rate of 26 bbls. an hour after cleaning out.

Logan County

Sinclair Prairie Oil Co. and others No. 1 Brown, in the South Langston area of Logan County, total depth 5,285 feet, had slight showings of oil and gas in Dolomite but was dry and abandoned when no results were obtained by shooting.

Phillips Petroleum Co. No. 2 Pfeiffer, C N half NW NE section 4-19-2w, only new test reported in Logan County, was building rig.

Creek County

The wildcat in southeastern Creek County, Summit Drilling Co. and others No. 1 Stone, SW SE NW section 12-14-7, topped Wilcox sand at 4,007 feet, found it dry and was abandoned at 4,025 feet, total depth.

Only one new well was started in Creek County. It was the Shibley Oil Co. No. 2 Timothy, C NW NW section 13-17-7, which had a fishing job at 409 feet.

Tulsa County

Commings No. 2-A Buck, CNL NW SW section 27-17-13, had Wilcox sand at 2,020-31 feet, total depth 3,100 feet; pumped 8 bbls. of oil a day after plugging back to 2,044 feet and completing.

Eppler No. 1 Morrison, SW SE SW section 31-18-14, was spudding.

Wagoner County

Mechlin and others No. 2-A Drew, CWL SW NW section 30-18-15, had sand at 1,070-82 feet, total depth 1,925 feet, and was abandoned.

Okmulgee County

Lease Investment Co. No. 1 Foster, NE cor. section 33-15-11, had Wilcox sand at 2,828 feet, total depth 2,854 feet, was shot and flowed and swabbed 130 bbls. of oil. Stekoll No. 2-B Hawkins, NE SW SE section 6-11-12, produced 50 bbls. of oil a day from sand at 1,206-38 feet, and was completed. Fore and others No. 2-A McIntosh, NE SW SE section 10-13-14, was abandoned in Wilcox sand at 2,550-63 feet, total depth. Claypool No. 1-A Derisaw, CEL NW SE section 14-14-12, had Dutcher sand at 1,460-80 feet, total depth 1,996 feet, plugged back to 1,642 feet, was shot and produced 400,000 feet of gas. English & Hendricks No. 8 Adams, CSL NW NE section 12-14-14, had Booch sand at 1,400-07 feet and was completed as a 5-bbl. pumper. Sheridan No. 1 Kimble & Reading, CNL NE NE section 21-15-12, was abandoned at total depth of 2,221 feet. Peterson No. 2 McKinney, NE SW NW section 16-15-14, was abandoned in sand at 800-879 feet. Lincoln No. 17 Roberts, NW SE SW section 29-15-14, swabbed 15 bbls. from sand at 1,740-94 feet, and was completed.

Two new tests were started in Okmulgee County. Kishoma Oil Co. No. 2-A Scott, C W half SW NE section 23-13-14, was a location. W. B.

Pine No. 2 Randolph, C SE NW section 28-12-14, was rigging up machine.

Lincoln County

Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 Lewis, SW SW SW section 33-15-3, in the West Chandler area, topped Dolomite at 5,072 feet, Wilcox sand at 5,091 feet, total depth 5,112 feet, flowed 516 bbls. of oil in 12 hours and was completed.

New Lincoln County tests include the following: Magnolia Petroleum Co. No. 2 Epps, SW SE SE section 32-15-3, location; Stanolind Oil & Gas Co., Amerada Petroleum Corp. and Slick-Urschel Oil Co. No. 4 Cragg, NW cor. section 12-14-3, cellar and pitts.

Okfuskee County

Ralvern Oil Co. No. 1 Camp, C NW NW section 12-11-8, in the Dill pool of Okfuskee County, topped Hunton lime at 3,904 feet, total depth 3,930 feet, pumped 110 bbls. of oil and 70 bbls. of water in 24 hours, completed.

Moffet and others No. 2 Mingo, NW NE SW section 25-10-10, topped Gilcrease sand at 2,628 feet, total depth 2,630 feet, and flowed 50 bbls. of oil in eight hours.

Keaton & Gold No. 1-A Likowski, SE NE NW section 26-11-11, had sand at 1,652-98 feet, was shot with 90 quarts and flowed 30 bbls. of oil in 24 hours.

Pottawatomie County

Stanolind Oil & Gas Co. and Amerada Petroleum Corp. were resuming in the Shawnee pool of Pottawatomie County. Their No. 1 Rushing, SW SW SE section 32-11-4, was building rig.

Huckleberry No. 3 Gray, SW cor. section 25-6-4, was a cellar. A new Pottawatomie County test listed last week as Smith & Scott No. 3 Brandenberg, now is listed as Commercial Drilling Co. and others No. 1 Brandenberg, NW NW SW section 34-8-4, a location.

Shell Petroleum Corp. No. 1 Mitchell, NE NW NE section 3-6-4, in the St. Louis district, topped Dolomite at 4,266 feet and at 4,305 feet, total depth, swabbed at the rate of 1 bbl. of oil an hour. Magnolia Petroleum Co. No. 1 Brandenberg-Jones, SW SE SE section 7-7-4, topped Hunton lime at 3,776 feet, total depth 4,032 feet; at 4,029 feet, it swabbed 58 bbls. of oil in 16 hours, was reacidized and was waiting. Phillaine Oil Co. No. 3 Garrett, NW SE NW section 28-7-4, found Viola lime at 4,017 feet, total depth 4,037 feet, oil rose 2,500 feet in the hole in four and one-half hours, and swabbing was started.

Johnston County

Equitable Oil & Gas Co. No. 1 Bellsey, SE SE NW section 12-2s-4e, wildcat in Johnston County, was dry and abandoned at total depth of 2,023 feet in Oil Creek sand.

Cotton County

Honea & Combs No. 1 Henderson, NE SE SW section 25-4s-11w, wildcat in Cotton County, had dry sand at 1,265-89 feet, was dry and abandoned at total depth of 2,326 feet in sandy shale. This test previously had been designated as Grace & Woods No. 1 Henderson.

Jefferson County

Sterntex Oil Co. No. 5 Black, NW NW SE section 16-7s-5w, in the Seay district of southern Jefferson County, had sand at 793-804 feet and was completed at total depth of 804 feet, producing 10 bbls. of oil and 10 bbls. of water a day.

Marshall County

Kingston Oil Co. No. 2 Felts, SW NE NW section 6-8s-6e, in Marshall County, had sand at 510-15 feet, total depth, and was completed as a 42-bbl. pumper, after water had been exhausted.

Atoka County

R. H. Pierce and others No. 1-A Aetna Life Insurance Co., NW SW NE section 10-1-13, Atoka County wildcat, had slight showings of oil and gas in upper horizons but was dry and abandoned at total depth of 4,004 feet.

Pittsburg County

Weibel and others No. 1-B well, C W half SW SW section 14-8-15, in northern Pittsburg County, reported for the first time, was dry and abandoned at 881 feet, total depth. It had sand at 783-94 feet, with a show of water.

Carter County

Carter Oil Co. and others No. 2 Bridenthal, NE NE NE section 9-1s-3w, drilled to total depth of 2,848 feet, plugged back to 2,750 feet, produced 87 bbls. of oil and some water in 24 hours and was completed. Same operator's No. 3 Humble Hefner, SW NW SE section 9-2s-2w, was completed at total depth of 1,523 feet in shale and produced 20 bbls. of oil. It had sand at 1,154-66 feet and 1,400-06 feet and 1,426-1,510 feet.

Carter Oil Co. and others No. 3 Bridenthal, SW cor. section 3-1s-3w, was a location.

J. L. Casey and others No. 1 Eaves, SW SW NW section 4-2s-2w, in the Wildcat Jim area of Carter County, had sand at 1,086-1,112 feet; total depth, 1,171 feet; oil rose 800 feet in the hole, and operators were rigging up to pump. It is estimated good for 25 bbls. a day.

Maxine Oil Co. No. 1 Eaves, SW SW NE section 5-2s-2w, had sand at 1,432-49 feet, total depth, and was estimated good for 20 bbls. of oil a day. Operators were rigging up to pump.

Samedan Oil Co. No. 2 Eaves, NW SW NE section 6-2-2w, was being tubed after swabbing at the rate of 6 bbls. of oil an hour. Oil sand was found at 1,804-12 feet; total depth, 2,103 feet.

Stephens County

Carter & Ring No. 9 Arn, SW NW NE section 26-1s-5w, in the Velma area of Stephens County, reported as a new well one week ago, was completed during the past week in sand at 693-704 feet, total depth, pumping 7 bbls. of oil in 24 hours.

Raisen Brothers No. 1-A Tomlin, SE NE NW section 15-3s-5w, total depth 214 feet, was waiting on cement when first reported.

Comanche County

English Drilling Co. No. 1 Clark, NW NE SE section 28-2-10w, in the Lawton area of Comanche County, had sand at 968-73 feet and flowed at the rate of 4 bbls. of 41 gravity oil per hour. It was shut in for tankage.

New Vice President

C. T. Everett, a vice president of the First National Bank and Trust Co. of Muskogee, Okla., for the past five years, and prior to that an officer of the First National Bank and Trust Co. of Tulsa, has been elected a vice president of the National Bank of Tulsa. Mr. Everett has been president of the Muskogee Clearing House Association, past president of the Muskogee Community Fund and an active member of the Muskogee Chamber of Commerce.

Oklahoma Petroleum Group Meets in Tulsa

The Oklahoma section, petroleum group, of the American Chemical Society will meet Saturday afternoon, January 25, at the Alvin Hotel, Tulsa.

At 3 p.m. there will be a discussion of "Hydrology and Related Subjects," sponsored by Roy L. Ginter, Ginter Chemical Laboratory, Tulsa; "Subsurface Saline Waters of the Mid-Continent Area," by L. C. Case, Gypsy Oil Co., Tulsa; "Trends of Water Conditioning for Flooding," by Lawrence Cecil, International Filter Co., Tulsa; "Questions Pertaining to Utilization of Salt Waters for Live Stock," by V. G. Heller, Oklahoma A. & M. College, Stillwater; "A Rapid Volumetric Method for Determination of Magnesium in Industrial Waters and Oil Field Brines," by C. L. Pate, Phillips Petroleum Co., Bartlesville.

Following the dinner at 6 p.m. Dr. Edward Bartow, president of the American Chemical Society, will deliver an illustrated talk on "Observations in the Orient."

New Bank Director

J. P. Byrd, Jr., vice president and head of the correspondent bank division of the First National Bank and Trust Co. of Tulsa, was elected to membership on its board at the annual meeting January 14. Mr. Byrd has been associated with the First National Bank since 1920. He received his early bank training in the Witham chain of banks in Georgia, and prior to joining the First National, was an officer or employe in other Tulsa banks from 1909 to 1920.

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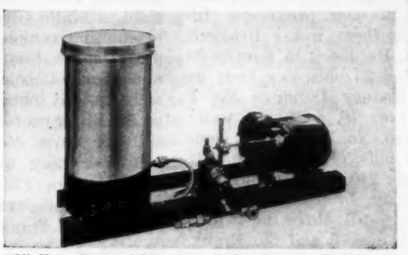

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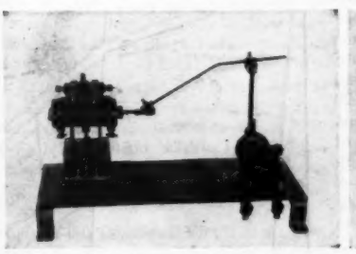

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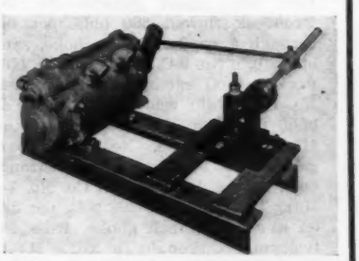

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SALES OFFICES IN PRINCIPAL CITIES

Southwest Texas District

By GEORGE WEBER

TWO NEW LOMA NOVIA SAND DUVAL COUNTY PRODUCERS

SAN ANTONIO, Tex., Jan. 20.—With production opened in the Loma Novia sand at two widely separated tests in Duval County, and with an increase in drilling activity shown in the Laredo, Coastal and Fault Line areas, Southwest Texas operators completed one of its busiest weeks in history. Two tests which made good tests in the Loma Novia sand last week, Westheimer and Daube No. 2 Z. Campos, east of the Seven Sisters field, and Rogers & Rogers No. 1 Sutherland in the Hoffman area, were successfully brought into production during the latter part of the week.

Laredo Area

The Laredo area, particularly Duval County, led in the number of completions and new locations. Loma Novia field, east of Government Wells, had 19 new producers. Included among them were: Bridwell Oil Co. No. 1 Brodbeck in Survey 76 brought in for 20 bbls. per hour at 2,395 feet; Rodney DeLange No. 5 B.C.C. in Survey 76, a 240-bbl. well; Duval Oil Corp. No. 3-B Moody, completed for 15 bbls. per hour, No. 8-B Moody, making 240 bbls. per day and No. 11-B Moody, brought in for 25 bbls. per hour, all three new producers in Surveys 76 and 60. Frank Gravis No. 4 Byland gauged an initial of 30 bbls. per hour on a one-half inch choke, Hamill No. 2-D Brodbeck flowed 360 bbls. per day through a one-half inch choke, same operator's No. 9-C Hahl made 18 bbls. per hour on same sized choke, and No. 11-C Hahl was completed for 20 bbls. per hour through open tubing. Highland Oil Co. No. 7 Hubbard gauged 75 bbls. per hour through open tubing, Reynosa Oil Co. No. 1-A Mary Davison made 360 bbls. per day on a one-half inch choke, Russ Petroleum Co. brought in No. 4 B.C.C. for 18 bbls. per hour and Texas Co. No. 7 Wendt flowed 20 bbls. per hour through a one-half inch choke. Six other inside wells were brought into production on the pump and with gas injection.

New locations in this field continue to be made in increasing numbers and drilling activity shows no indication of a letup. Due to the greatly increased production of this field in recent months, a new outlet is being projected. Contracts have been let for the construction of a new 5½-inch welded pipe line to be laid from Loma Novia to a deep water terminal at Corpus Christi, 72 miles distant.

Seven Sisters

In northern Duval County, Seven Sisters continued its development with seven new completions and a significant new extension and new sand. Westheimer and Daube No. 2 Z. Campos which tested oil in the Loma Novia sand last week, set casing at 2,666 feet and was swabbed in late in the week to gauge 25 bbls. per hour on a three-eighths inch choke. This test, in the northeastern part of section 224, failed to show production in the Chernosky and Government Wells sands, productive in the Seven Sisters field. The discovery opens extensive possibilities for the field, as it marks the first production below the lower Government Wells sand for that area. Another Chernosky producer was brought in during the week, with Buchanan and Blanco Oil Co. No. 6 Wood-Welder making 21 bbls. per hour on a three-eighths inch choke from the sand at 2,222-37 feet. Same operator's No. 7 Wood-Welder made one of the west wells of the field, gauging 31 bbls. per hour through a three-eighths inch choke from the Government Wells sand at 2,485 feet. Elsewhere in the field, Atlantic Oil Producing Co. was attempting completion on two wells, and George Coates, Pan American and Santa-Clara-H. H. Henderson were on the sand. Other completions of the week were Mid-Continent Petroleum Corp. No. 5 Serna for 28 bbls. per hour on a one-half inch choke, Santa Clara Oil Co. No. 3 Welder for a good producer, not yet gauged, and Humble Oil & Refining Co. No. 4-A Serna completed at 2,493 feet.

Seven new locations were staked in the field during the week by six of the companies operating there. A test which will show much of the possibilities of production to the north of the field is Humble No. 1 Wright, in the southeast corner of the southwest quarter of Survey 118. This outpost well is about a mile north and slightly west of Henderson & Harvey No. 1 Chernosky, discovery well.

Hoffman Area

In the Hoffman gas area south of Loma Novia, Rogers and Rogers No. 1 Sutherland, section 120, was cleaning into pits and showing for a good producer. The well is producing from the Loma Novia sand at 2,863-85 feet flowing an estimated 20 bbls. per hour. This discovery, it is expected, will open new development throughout the section, extending the production in the Loma Novia sand several miles to the south of the field for which it is named.

Webb County

Activity in Webb County centered around the Lopez field and O'Hern-Cole area. In Lopez, three producers were brought in; G. G. Mortimer No. 3 Alonzo Lopez for 18 bbls. per hour through a half-inch choke, Mills Bennett Prod. Co. No. 3 Garcia making 12 bbls. per hour on the same sized choke and Superior Oil Co. No. 3 Billings, completed for 20 bbls. per hour. O'Hern got two new producers, and in the new area opened recently by Cole Petroleum Co. No. 92 Rosa Benavides, two rigs were drilling.

Valley Activity

Valley activity, at low ebb during most of the week, produced one new well in the western part of Samfordyce; Porter & Pickens No. 4-A Garcia. A second wild well in recent weeks blew out the latter part of the week in Starr County, and at latest reports had not been shut in. The blowout occurred in A. J. Weyel Jr. No. 1 Wood, a rank wildcat 2,500 feet north of the Rio Grande River in Porcion 84. Drillers had been coring at 2,040 feet, and were coming out of the hole to change bits. When the well blew out 1,300 feet of drill pipe was still in the hole. Origin of the high pressure gas is not definitely known, but is believed to come from a sand at the bottom of the hole.

Nueces County

Increasing interest in the new Saxet Heights field on the edge of Corpus Christi in Nueces County, has led to several locations and added leasing activity. The most active field in the county, Saxet Heights, now has 6 completed producers, and 12 locations and drilling wells. Garland Clymore is rigging up on a test to be drilled more than a mile southeast of the pool on the 80-acre Jonas Weil Tract bordered on the south by the Texas-Mexican Railway. This test will be closely watched as its successful completion as a producer would open much acreage. In the same county, Saxet continued active with six wells approaching or on the pay sand. Interest in the Clara Driscoll field has lagged since the failure of Masterson No. 1 Eschberger, wildcat 2 miles northeast of Santa Clara Oil Co. No. 1 Driscoll, discovery well of the new production. Santa Clara No. 2 Driscoll is a tight well at present. The well tested an upper sand and recemented, after which no information was available.

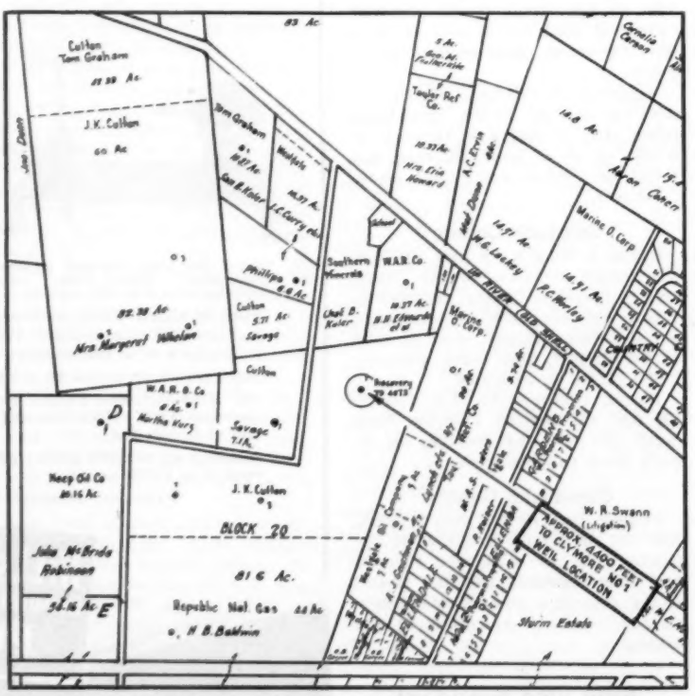
San Patricio

San Patricio County activity continued to increase with operations at the usual high pitch in Plymouth, and with the beginning of several tests in the area opened by Geo. E. Smith No. 1 Britton. This latter field, named the Taft field, has two drilling wells and three new locations to begin shortly on the east, south and southwest.

Jim Wells

Jims Wells County saw interesting developments with the completion of Smith & Sons No. 1 McGill for a 20,000,000 foot gas producer in the Armagosa field, and the start of a

(Continued on Page 75)



The new Saxet Heights field on the western edge of Corpus Christi, showing development since discovery in November by J. K. Culton. Gordon Clymore is drilling an outpost 4,400 feet southeast

(Map by Porter Regenold, Corpus Christi)

Michigan Field Report

WILDCAT SHOWS ENCOURAGE SEARCH FOR OIL IN MICHIGAN

By
PAUL A. ELLIOTT

MUSKEGON, Mich., Jan. 20.—Michigan operators, straining themselves to find some new sources of crude to bolster an alarming decline in production, last week were encouraged by three wildcats indicating the possibilities of new pools and the success of two extension tests in previously opened pools.

One of the most encouraging features of the new discoveries, though none added large initial productions in itself, was the widespread location foreshadowing a more extensive drilling program for new crude during coming months.

New Discoveries

Largest of the three new wildcats was reported when oil had risen 600 feet in the Socony-Vacuum Oil Co. No. 1 Robert P. McCarbery, NW NE NW section 36-5s-5e, Macon Township, Lenawee County, near the Michigan-Ohio line. Drillers estimated it would make 25 bbls. a day on the pump at a depth of 2,200 feet. It is located 3 miles northeast of the village of Britton and near Tecumseh, Mich.

Another location has been made by Mott & Denman on the Fannie Huffman lease, NE SE NE section 26-6s-3e, Adrian Township, Lenawee County, near the city of Adrian.

Smith Petroleum Co. No. 1 Boyce Farm Co., NW NW NW section 24-14n-7e, Wisner Township, Tuscola County, was rated a 7-bbl. natural producer in the Dundee and was treated with acid. The limestone was topped at 2,661 feet and pay streaks were encountered from 2,686 to 2,800 feet. Drilling was suspended at a total depth of 2,832 feet. Located southwest of the village of Wisner, the Boyce test previously struck a small show in the Berea at 1,441 feet.

Although the smallest completion in Midland County last week, the Pine River Oil Co. No. 1 H. Sims, once abandoned but recently reopened, made 40 bbls. initial from the Berea pay sands after a shot. Located C NE SE section 4-13n-1e, Mount Haley Township, it was rated good for settled production of 10 bbls. a day at 2,462 feet on the pump.

Despite its comparatively small initial production, the Sims well is considered of greater importance than many larger wells because of the higher grade Berea crude reported bringing a premium from purchasers. The oil is similar to that produced in the new Birch Run Township pool developed in Saginaw County during the past year by the Smith Petroleum Co. and lies within a reasonable depth for drilling.

Bay County

Bay County also was added to the ranks of commercial oil producing areas in Michigan last week when No. 1 Mike Suszko, SE SE NE section 11-18n-3e, Gibson Township, was reported finished by M. C. Fordyce and the Roosevelt Oil Co. for a daily output of 25 bbls. from the Traverse formation. The limestone was topped at 2,029 feet several weeks ago. The pay sands were heavily treated with acid before completion.

Henry L. McEvoy was rigging up for a new Bay County test on the Mander farm, SW SE NE section 18-14n-3e, Williams Township, about 4 miles east of the city of Midland.

Vickeryville

The Vickeryville well drilled by the Jetter Oil Co. and the Lima Oil Corp. on the C. N. Long lease, as the discovery well of a new Montcalm County field, swabbed 120 bbls. in 48 hours and was estimated good for 50 bbls. a day after a second acid treatment in the Dundee.

Extension Tests

An important extension of the Beaverton Township pool in Gladwin County was indicated when M. F. Whitehill's No. 1 Chris Welcher, SW NE SW section 2-17n-2w, flowed 18 bbls. an hour in the Dundee striking oil at 3,872 feet, about 2 feet higher on structure than several other new producers recently completed in this field.

Dundee limestone was topped at 3,816 feet in this test already drilled 64 feet into the formation with operators planning to give it an acid treatment or shot before completion. It is the northeast outpost of the field where five other strings of tools are running besides two wildcat tests in other townships of the county.

United Producers & Royalty Co. No. 1 E. E. Nettleton, NW SW NE section 24-17n-2e, Bentley Township, Gladwin County wildcat, was drilling into the Dundee, while Goll, Graves & Mechling, Inc., were starting a new wildcat in their No. 1 M. Kent, NE NW SE section 23-17n-1e, Billings Township, same county.

Saginaw County

Another new completion worthy of special note because it is the largest well yet completed in the Birch Run Township pool of Saginaw County was Smith Petroleum Co. No. 2 Morse-Getty (Community lease), NW SW NE section 20-10n-6e, which flowed 25 bbls. an hour for the first five hours after a shot in the Berea pay sands; made 160 bbls. during the first 24 hours; and was rated a 40- to 50-bbl. producer. It was completed at 1,545 feet, 20 feet in the shallow oil pay sands and had a natural flow of 35 bbls. a day before a 40-quart shot brought in the record flow of the field where most wells have ranged from 10 to 25 bbls. a day.

Two other tests are being started in Birch Run Township, while two wildcat tests were moving in tools or erecting rig, namely, Mid-State Development Co. No. 1 A. J. Burleson, SE SW SE section 21-10n-5e, Taymouth Township, and Edward and Charles Bell's new wildcat in section 10, Fremont Township.

Isabella County

The most important development in Isabella County for more than a year was an increase in production of the Jackson-Meyer-Schmidt Syndicate No. 1 Hughes, a northeast extension of the Leaton area. It flowed 229 bbls. in 15 hours after acid treatment in the Dundee.

Located SW SE NE section 19-15n-3w, Denver Township, Isabella County, the Hughes well was first drilled into the Dundee formation for an initial production of about 50 bbls. a day in January, 1935. Its production has been successively increased with acid treatments until it is now the largest producer in the field. Drillers report no water encroachment.

Since the original success of the Hughes test a year ago, two oil wells and three gassers have been completed in this section of one of Michigan's older fields.

T. T. Hawksworth No. 1 J. Varney, NW SE SW section 34, Denver Township, which was cased at 3,554 feet, above the Dundee, was reported to have struck commercial production, the volume of which would not be determined until the hole has been swabbed several days before possible deepening or acid treatment.

After being shut down for several months, Morris-Van Keuren Oil & Gas Co. No. 4 J. A. Bowman heirs, NW NE NW section 27-16n-4w, Vernon Township, Isabella County, was being plugged as a dry hole in the Dundee.

Pure Oil Co. No. 1 Virgil McClintic, SW NW SE section 15-14n-9w, a deep test for oil in the Broomfield Township gas field of Isabella County, also was reported dry after being drilled to more than 3,700 feet deep.

Ten other Isabella County tests were reported active including one in Chippewa Township, one in Deerfield, four in Denver Township, one in Isabella, one in Rolland, one in Vernon and a new wildcat test in Wise Township. Another new location also has been made in Vernon Township.

Montcalm County

Two new oil producers were drilled into the Dundee pay sands in the Crystal field last week, one good for 200 bbls. a day naturally in Crystal Township and the other estimated at 150 bbls. a day in Ferris Township.

The two producers were offset by a "duster" in section 36, Ferris Township.

Crystal Township

Eastern Gulf Oil Co. No. 1 G. B. Race, NW NW SE section 2-10n-5w, Crystal Township, came in for 200 bbls., naturally, per day topping the Dundee at 3,189 feet and completing at 3,193 feet. It will be treated with acid.

John Vale's No. 1 George Barger, NW SW SE section 2, same township, swabbed 15 bbls. a day from the Dundee topped at 3,192 feet and drilled into the pay at 3,197 feet, but was to be drilled deeper before completion.

Eastern Gulf No. 1 Harvey J. Fisher, SE NW NE section 2, Crystal Township, showed the greatest increase after acid treatment, when it flowed 2,000 bbls. in 22 hours. It was immediately held down to 150 bbls. a day under back pressure, or less than its original natural rating of 200 bbls. a day.

Four other Crystal Township tests were nearing completion in the Dundee, namely, Daily Crude Oil Co. No. 7 W. Robbins, SW SW NE section 3, and No. 8 W. Robbins, NE SW NE section 3, both drilling at more than 3,100 feet; Gordon Oil Co. No. 6 William E. Strait, NW SE NW section 3, nearing 3,000 feet and McClanahan Oil Co. No. 1 Jarstfer, NE SE NE section 4, about 2,800 feet deep.

Twelve other Crystal tests were drilling while four locations were listed for the township.

Ferris Township

Isabella Oil Co., Inc., B No. 3 William Strait, SW SE SE section 34-11n-5w, Ferris Township, Montcalm County, was estimated good for 150 bbls. daily naturally at 3,202 feet, or 7 feet in the Dundee topped at 3,195 feet. It will be acid treated before completion.

Same company's B No. 4 Strait, SE SW SE section 34, Ferris Township, previously drilled into the pay sands for 100 bbls. naturally was increased to 150 bbls. a day by acid treatment and completed in the Dundee at 3,204 feet. It will be placed on the pump immediately.

T. F. Caldwell, Inc., No. 7 Jesse Flint, SE NE SW section 35, Ferris Township, also was reported a commercial natural producer but to be treated with acid before completion in the Dundee pay sands.

The Ferris Township disappointment was T. F. Caldwell, Inc., No. 1 W. H. Pugsley, SW SE NW section 36, which drilled into bottom water at 3,216 feet after a good show of oil at 3,214 feet. It had not yet been abandoned as operators considered deepening. Dundee was topped at 3,203 feet and showed gas and a little oil at 3,207 feet. It had previously been completed as a shallow gasser in the Michigan Stray sands last August to await oil developments in this northeast section of the pool.

Two other Ferris tests were nearing the Dundee, namely, J. E. Evans,

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trustee, No. 1 James A. Duffield, SW NW SW section 25, drilling at more than 3,150 feet, and Isabella Oil Co., Inc., C No. 1 William Strait, SW NE SE section 34, about 2,800 feet deep.

Home Township

Two tests were reported failures in Home Township, Montcalm County, last week.

Max Pray No. 1 George Skinner, SE NW NE section 9-12n-6w, an extension test in the Home Township, Traverse pool, was plugged and abandoned at 3,118 feet, or 84 feet in the limestone. A light show was encountered from 3,087 to 3,090 feet.

H. O. Butler and others No. 1 Academy, C NW SE section 25, Home Township, reported to have encountered a flow of 2,000,000 feet of gas daily in the top of the Michigan Stray sands, was dry in the shallow gas sands last week with operators undecided whether to carry it deeper as an oil test.

Belvidere Gassers

More than 30,000,000 feet of new gas production was developed in two Belvidere Township, Montcalm County, tests when they were drilled into the Michigan Stray sands last week.

Larger of the two new shallow gassers was Gaylord W. Norton No. 1 Bellows estate, C NE SW section 10-12n-7w, Belvidere Township, which flowed 23,000,000 feet a day. Reginald M. Burch, trustee, No. 1 Morse, C SW NW section 2, same township, topped the Michigan sands at 1,242 feet and at 1,267 feet had been completed with an open flow capacity of 7,000,000 feet a day.

Edward Stewart finally completed his No. 1 F. L. Peterson, C NE NW section 12, previously drilled into the gas sands, for a gauged open flow capacity of 7,300,000 feet daily after topping the Michigan Stray at 1,245 feet and completing at 1,262 feet.

A flow of Michigan gas estimated at 5,000,000 feet was encountered at about 1,200 feet in the Rowmor Corp. No. 3 John and David Husted, NW NE SW section 2, Crystal Township, an oil test.

Mecosta County

One good-sized gasser was completed in the Millbrook Township section of the Millbrook-Hinton-Belvidere field, largest in the state. Wiser Oil Co. No. 1 Ernest Bissell, C SE NE section 30-13n-7w, Millbrook Township, topped the Stray sands at 1,323 feet and was completed with an initial flow of 5,500,000 feet daily at 1,337 feet deep.

Two smaller gas wells which may be abandoned because of their small initial flows or may be deepened also were reported in Millbrook Township. Guy M. Obenauer No. 1 Houghton, C SE NW section 33, flowed about 250,000 feet daily when drilled into the shallow Michigan stray, while Michigan & Ohio Fuel Co. No. 1 Wier Van Houghton, C NW SW section 35, gauged 558,000 feet but will be plugged as too small for commercial production.

Midland County

Three new Dundee oil producers were assured in Midland County last week, one in Greendale and two in Porter Township. Largest of the three was Braden & Saunders No. 4 Kate Stapleton, SE NW NE section 13-14n-2w, Greendale Township, which made 200 bbls. a day from a depth of 3,541 feet.

Pure Oil Co. No. 3 G. L. Huff, NE SE SE section 15-13n-1w, Porter Township, added an initial of 165 bbls. a day when it was acidized at 3,428 feet. Pure No. 8 Charles Hill, NW SE NE section 18, also swabbed 60 bbls. a day at 3,428 feet. It will be treated with acid.

Rex Oil & Gas Co. also had drilled into the Dundee to a total depth of 3,418 feet, but was not to be completed until this week after acid treatment.

Ogemaw County

Five more wells were drilled into the Dundee formation in Ogemaw County, but all were to be acid treated before completion.

John C. Newell No. 1 Charles Husted, SW SE NW section 36-22n-2e, West Branch Township, swabbed 75 bbls. a day naturally but will be treated in the Dundee.

Two other tests made 40 bbls. daily before acid treatment, they being Weber Oil Co. No. 1 Frank Estey, SE NW SE section 28, also in West Branch Township, and Louis Dery and O. S. Fowler No. 2 Dery-Fowler-Wobig, SW NW NE section 6-21n-2e. The former topped the Dundee at 2,548 feet and drilled to 2,730 feet, while the latter finished drilling at 2,606 feet after first striking the limestone at 2,614 feet.

Charlotte G. Marsh, trustee, No. 1 state of Michigan, had a natural potential of only 15 bbls. daily, located NW NE SW section 6, Mills Township, but was completing at a total depth of 2,614 feet, with acid treatment scheduled. Dundee was topped at 2,454 feet.

H. C. Nelson No. 3 state of Michigan, SE SW SW section 31-22n-3e, Churchill Township, was swabbing about 25 bbls. daily from the Dundee topped at 2,465 feet and drilled to 2,623 feet.

Muskegon Development Co. No. 1 Nellie B. Watson, NW SE NW section 5-23n-3e, a Cumming Township wildcat, was drilling at about 2,900 feet after being shut down for some time awaiting completion of another Cumming Township test dry in section 18 several weeks ago.

Wildcat Tests

J. Garfield Buell and Seth W. Herndon struck salt water in the Traverse limestone at 2,780 feet in their No. 1 Marion Smith, NW NE NW section 29-14n-11w, Goodwell Township, Newaygo County, near the village of White Cloud.

Dragoon Development Co. No. 1 W. K. Young, SW NW NW section 15-17n-15w, Logan Township, Mason County, was fishing for tools at 2,438 feet, or in the Bell shale just above the Dundee. Max Pray No. 1 Victor Barothy, SW NW NW section 29, same township, was scheduled to test the upper Traverse, which proved unsuccessful in the Dragoon-Young test but has showed in previous Logan Township tests.

Four other western Michigan tests, including one in Newaygo County and three in Oceana, were shut down. Two unsuccessful tests, one in Kent County known as the National Minerals Corp. No. 1 Jasper Lewis, SE SE SW section 5-10n-10w, Solon Township, and Reed Oil Co. No. 3 J. J. McDermott, were completing plugging operations.

Herbert Snell No. 1 Frank Howe, SW NE NW section 19-10n-2w, a Hamilton Township wildcat test in Gratiot County, also was arousing considerable interest because of reports of high structure. Dundee was

topped at 3,127 feet and casing set at 3,134 feet, with leases being taken as high as $10 an acre in the vicinity.

Sun Oil Co. had reached a depth of 4,132 feet, or 333 feet below the top of the Dundee in the No. 1 William E. Woodward, SW SE SE section 24-19n-3w, Hamilton Township, deep test in Clare County.

Muskegon County

A. S. Cochran, a Muskegon contractor, last week started to move in a rig to drill the first wildcat test for oil or gas in Muskegon County in several years on the Mary Bolt farm in section 10, Casnovia Township. The new test will be drilled for Jacob Bolema in the heart of a tract of about 12,000 acres under lease to the Muskegon operator and several associates in the Overland Petroleum Co., of Grand Rapids.

Southwest Texas Fields

(Continued from Page 72)

new wildcat test, G. M. Richardson No. 1 J. E. Garrett, 15 miles north of Alice.

Fault Line Zone

The Fault Line zone is the scene of increasing activity, especially in shallow tests of Bexar, Caldwell and Guadalupe Counties. Bexar County may gain another shallow pool if Joe DuPree No. 1 Russell, wildcat south of San Antonio is completed. The test has a show of oil at 1,001 feet and has set casing. In the Pearsall field of Frio County, two additional locations were announced by Amerada Petroleum Corp. holding large blocks in Frio County. These will increase the number of drilling rigs in the field to four.

Eight New Directors for Exposition

Eight new directors have been appointed to the board of directors of the International Petroleum Exposition, President W. G. Skelly announces. They are: Alimand M. Blow, vice president, Amerada Petroleum Corp., Tulsa; C. W. Flint, president, Tulsa Rig & Reel & Manufacturing Co., Tulsa; L. S. Gregory, consulting engineer, Tulsa; Ed. H. Moore, independent oil operator, Tulsa; P. C. Lauinger, president, The Oil and Gas Journal, Tulsa; George Parker, president, Lewis Production Co., Tulsa; and Jay P. Walker, National Tank Co., Tulsa.

The addition makes a total of 81 members of the board representing the prospecting, production, transportation, refining and marketing phases of the industry as well as the major and independent companies in every section of the United States.

Clyde H. Pape, a director, has been made treasurer for the coming exposition.

Completions and Operations in New York-Pennsylvania Gas Field

By R. C. CONINE

COUDERSPORT, Pa., Jan. 20.—There was one completion, a duster, in the Pennsylvania and New York Oriskany gas sand fields in the past week. It was Wyoga Oil & Gas Co. test on the Estee farm, Charlotte Township, Chautauqua County, which found the White Medina at 3,969 to 3,988 feet and was abandoned at a total depth of 4,025 feet. Wittmer Oil & Gas Co. was shut down after a show of 50,000 feet on the Snyder farm, Angelica Township, Allegany County. Top of the Oriskany was found at 4,061 feet and gas at 4,067 to 4,070 feet. The drill was stopped temporarily at 4,073 feet.

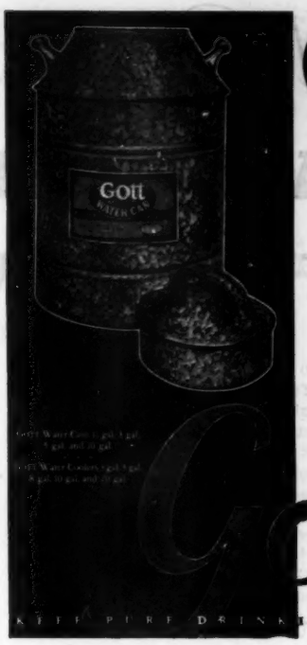
Pennsylvania Operations

Producers Power & Light Co. was drilling at 1,005 feet on the Joe Trimmer farm, Clymer Township, Tioga County. Godfrey L. Cabot was drilling at 75 feet on the H. Decker farm, Westfield Township, same county. P.P.&L. was building a rig on the Francis Johnson farm, Clymer Township, same county. Godfrey L. Cabot was drilling at 6,251 feet on the A. G. Lyman farm, Ulysses Township, Potter County. Same party was drilling at 4,875 feet on the Duke estate property, Genesee Township, same county. Miller Ake was shut down at 3,810 feet on the Walter Burrell farm, same same township and county. Hanley & Bird was fishing at 5,185 feet on No. 2 Burd, Allegany Township, same county. Potter Development Co. was drilling at 3,760 feet on the Walter Burrell farm, Genesee Township, same county. Same company was building a rig on the A. Karhan farm, Clymer Township, Tioga County.

New York Operations

Belmont Quadrangle Development Co. had a bad hole at 100 feet on the Thomas Burns farm, Alma Township, Allegany County. Bayless and others were shut down at 3,211 feet on the H. Behrens farm, Allen Township, same county. Schrack and others were shut down at 4,380 feet on the Lewis & Knox property, Alma Township, same county. Becker and others were drilling at 1,490 feet on No. 2 Burns, same township and county. Godfrey L. Cabot was drilling at 3,110 feet on the Gillette farm, Amity Township, same county. Wyoga Oil & Gas Co. was drilling at 2,920 feet on the Henry Knox farm, Willing Township, same county. Utica Natural Gas Co. was shut down at 875 feet on the William Grimm farm, Western Township, Oneida County.

Property Shares was shut down at 950 feet on the R. Skinner farm, Westmoreland Township, Oneida County. Belmont Quadrangle Development Co. was drilling at 3,270 feet on the Percy Curtis farm, Leon Township, Cattaraugus County. In this test black water was found at 3,190 feet. Trumbull was shut down at 1,125 feet on the Baker & Rifer farm, Aurchas Township, Cayuga County.



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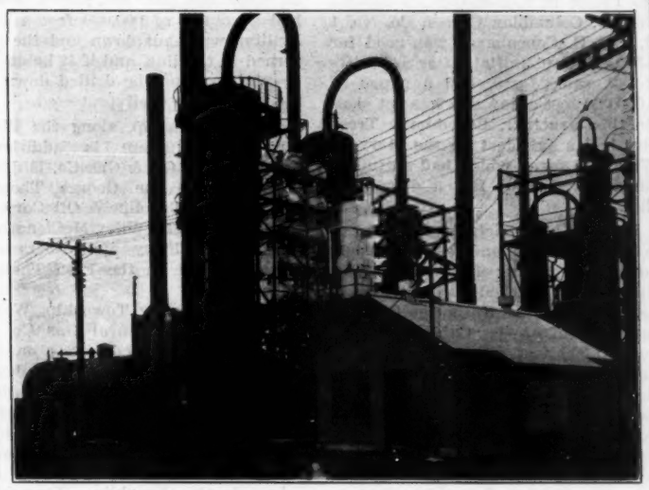

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Eastern Field Report

By STAFF CORRESPONDENT

FAIR ORISKANY COMPLETION IN WEST VIRGINIA DISTRICT

PITTSBURGH, Pa., Jan. 20.—Another very fair Oriskany sand gas well was completed in West Virginia during the past week. In Malden district, Kanawha County, Columbian Carbon Co. completed the test on the M. J. Dearing heirs farm at total depth of 4,703 feet and the well gauges slightly over 5,000,000 feet a day and has not been shot. It is on Campbell Creek about 1,500 feet north a few degrees west of South Penn Oil Co. Oriskany test on the Katherine C. Scott farm.

The elevation of the mouth of this well was 789 feet. The top of the Corniferous sand was at 4,591 feet and gas was struck at the top of the Oriskany sand. This is the fourth good Oriskany sand gas well on the Warfield anticline in Malden district. The initial was G. L. Cabot, Inc., No. 8 Campbells Creek Coal Co. tract, good for about 2,500,000 feet a day. Columbian Carbon Co. followed with a test on the W. D. Lewis tract, good for 8,000,000 feet after shot. South Penn Oil Co. completed a test on the Katherine C. Scott farm gauging 3,000,000 feet a day, natural.

On the Milliken anticline on Coopers Creek in Elk district, Kanawha County, Columbian Carbon Co. No. 1 G. and D. Copenhaver was good for 2,500,000 feet initial after shot. Its No. 2, same farm, had a gauge of 8,000,000 feet a day and was not shot. On this structure, Benedum & Trees also had a fair test on the Mary C. Wingfield farm, which had an initial gauge of 2,500,000 feet a day, after shot.

In Malden district, three wells are actively drilling and two are shut down with fishing jobs. South Penn Oil Co. has reached 1,000 feet in a second test on the Katherine C. Scott farm. Godfrey L. Cabot, Inc., is down 1,399 feet on the William B. Tompkins farm; 2,725 feet on the N. B. Tompkins farm, and 1,265 feet in No. 9 on the Campbells Creek Coal Co. and fishing. This operator is also shut down at 1,870 feet on the W. D. Lewis farm with a fishing job.

In Elk district, Columbian Carbon Co. has reached 500 feet in No. 3 G. and D. Copenhaver farm and 1,565 feet in No. 4. This company is also drilling on the W. H. Baxter and others lease, which is now 1,310 feet. Same company is moving in to start test on the Elkland Improvement Co. tract, Barlow farm, west of Coopers Creek across Elk River, and is building a rig on the M. M. Robertson farm west of Coopers Creek, but north of the river.

In Loudin district, Kanawha County, where Oriskany tests have been less successful, Columbian Carbon Co. is down 4,900 feet and drilling through the Corniferous lime on the S. H. Hoge farm. This should be completed within the week. Here H. C. Zogg and others are drilling at 2,430 feet on the R. H. Dunn farm. Godfrey L. Cabot, Inc., is skidding the rig to a new location on the Kanawha Land Co. lease after losing the tools at 1,264 feet.

During the past week 23 operations were completed, which resulted in 3 dry holes, 10 gas wells and 10 producers with an initial production of 186 bbls. a day. The best producer for the week was in Southwest Pennsylvania.

SOUTHWEST PENNSYLVANIA

One fair producer, one gas well and one dry hole was the total new work completed in Southwest Pennsylvania. In Amwell Township, Washington County, Moore, Orrill & Co. completed No. 6 G. L. Walker in the Fifth sand, starting off at 75 to 100 bbls. a day, one of the best on this Fifth sand streak. These wells have long-lived production.

In this same township, and along the same Fifth sand streak, A. W. Lewis, F. K. Fawcett and others, in drilling on the Clarissa Ramsey (B. A. Bonham) farm to the same pay, reached a Stray sand at 3,005 feet between the Gordon and Fourth sand. At 3,006 feet gas was struck which had a volume of 900,000 feet a day. Drilling was shut down and the gas turned in the line, and if it holds up, the well will not be drilled down as the location is well protected.

In this township, along the Fifth sand streak there is additional drilling. New Oil & Gas Co. is down 2,200 feet on the George Thomas farm. Union Gasoline & Oil Corp. is rigging up on the Wiley McClenathan farm. John Foley and others are down 400 feet on the Fred Thomas farm.

In West Findley Township, Washington County, Natural Gas Co. of West Virginia drilled a test on the J. W. Earnest farm to a total depth of 3,042 feet. The Fifth sand blew down and the hole is being plugged as dry. In East Findley Township, Parkinson and Dague are shut down on the Chris Ealy farm.

In South Franklin Township, Washington County, E. H. and J. B. Tague have resumed on the Hiram McClain farm and have reached 2,400 feet. William Bungard & Co. are down 1,640 feet on the Clyde Hinerman farm.

In Greene County, S. B. Clovis has reached 2,375 feet on the Charles Fordyce farm in Gilmore Township. In Perry Township, Peoples Natural Gas Co. is deepening No. 1 Eli Headley and is at 1,962 feet. In Springhill Township, James H. Null, Agent, is cementing No. 3 David Null at 1,435 feet.

In Richhill Township, Green County, Manufacturers Light & Heat Co. is rigging up on the S. S. Leslie farm. Natural Gas Co. of West Virginia is building a rig on the Sherman Barddock farm. In Wayne Township, Equitable Gas Co. is rigging up to deepen No. 1 W. H. Cole.

Deep Tests

Interest is beginning to quicken in the deep test of William Snee and others on the Summit Hotel property on Chestnut Ridge in South Union Township, Fayette County. The present depth is 5,810 feet or within 300 to 400 feet of the probable depth of the Oriskany sand. Progress has been necessarily slow due to depth and the fact it is a wildcat in untested territory.

In Crawford County, Carnegie Natural Gas Co. resumed drilling the deep test on the Gertrude Scott farm in South Shenango Township and reached 4,080 feet with 800 feet of water in the hole which it is believed is coming from 26 feet below the bottom of the casing.

WEST VIRGINIA

Five producers were completed in West Virginia. In Monongalia County, Moore Tex Oil Co. drilled deeper No. 2 Leonard Shanks in Clay district to 2,932 feet, the Fifth sand. It is a 1-bbl. producer.

In Ritchie County, King Knob Oil Co. completed a test on the William Hill farm in Murphy district in the Maxon sand at a depth of 1,898 feet. It is making 15 bbls. a day, initial. In this district on the headwaters of Lamb Run, Mid Penn Oil & Gas Co. completed a test on the John Shore farm in the Maxon sand at 1,988 feet, good for 10 bbls. a day. On the divide between Bear Run and Laurel Run, Deem and Burke, as Lawrence Farm Oil Co., completed a second test on the William Lawrence farm in the Injun sand at 1,960 feet, good for about a barrel and a half a day. On Laurel Run, Patterson and Pope drilled a second test on the M. W. Patterson farm to 1,901 feet through the Injun sand which was dry. It was plugged back to the Salt sand, 1,637 feet, from which it is good for 4 bbls. a day and 400,000 feet of gas a day.

In Gilmer County, Hope Construction & Refining Co. cleaned out and shot No. 1 Fred S. Wilt in DeKalb district, Gilmer County, which had declined to almost dry. It is now making 6 bbls. a day. Trace Oil Co. increased No. 1 Craddock and Hardman from 4 to 12 bbls. a day by similar means.

Gas Wells

In Clay County, Elk River Gas Co. completed a test on the T. W. Keith farm in Pleasant district at 2,110 feet. The Big Lime was at 1,898-2,080 feet; Big Injun at 2,080-2,110 feet with about 213,120 feet of gas showing at 2,085-95 feet.

In Jackson County, Hanley Brothers completed a test on the C. R. Proctor farm in Ravenswood district at 4,115 feet. Big Lime was at 1,405-1,515 feet; Berea sand at 1,967-69 feet; gas was struck at 3,470-97 feet which had a volume of 17,000 feet a day, natural, and 32,000 feet after shot.

In Kanawha County, Marshall and Price completed No. 10 Goshorn and others on White Oak Run in Elk district at 2,134 feet. Big Lime was at 1,737-1,887 feet; Big Injun sand at 1,887-1,916 feet; Weir sand at 2,005-2,132 feet; gas at 2,021-26 feet, 2,035-49 feet and 2,126-30 feet; the volume was 681,120 feet. In Washington district, Harvard Gas Co. completed No. 2 William Compton at 3,626 feet. Big Lime was at 1,340-1,535 feet; 6⅝-inch casing to 1,342 feet; Big Injun 1,535-73 feet; Berea sand 2,013-35 feet; Brown shale 3,195-3,626 feet and gas at 3,245-3,420 feet. The volume is 312,000 feet a day.

In Ritchie County, Garner and others completed a test on the Jennie Rogers farm in Clay district in the Injun sand at 1,855 feet, gauging 750,000 feet a day. In Murphy district, Ralph Roberts completed a test on the A. L. and Lillian Wilson farm in the Big Injun sand at 2,177 feet. It is a small gas well.

Other Operations

In Boone County, the deep test of Pond Fork Oil & Gas Co. has reached 4,521 feet on the Cole and Crane lease in Washington district. In Sherman district, Pure Oil Co. is rigging up No. 80 Federal Coal Co.

In Cabell County, Merrits Creek Gas Co. is drilling on the Stella U. Farr farm in Barboursville district. In McComas district, W. C. Kingery and others are rigging up for a second test on the Sarah E. Midkiff farm. Pridemore and Adkins are rigging up on the Lucas heirs farm. West Virginia Gas Co. has started drilling No. 3 John J. Porter and has a location for No. 4. Kanawha West Virginia Gas Co. has started drilling on the R. N. Heath farm.

In Gilmer County, Friendly Oil & Gas Co. has made a location on the Gainer and Kuhl lease in DeKalb district. E. D. Norman and others are fishing at 700 feet on the Everett Collins farm. Verl Stewart has reached 2,000 feet on the Frank Stalnaker farm.

In Kanawha County, West Virginia Gas Corp. has a rig for No. 13 C. M. and Lizzie Caldwell in Union district. Owens Illinois Glass Co. is building a rig for a second test on the L. A. Christy farm.

In Monongalia County, Carnegie Natural Gas Co. is drilling at 1,622 feet on the F. M. Shearer farm in Cass district. Big Injun sand was reached at 1,596 feet with about 95,000 feet of gas showing at 1,598 feet.

In Pleasants County, L. C. White and others are down 850 feet in No. 4 R. H. Browse in Union district. In

McKim district, Boyce Drilling Co. shut down on the Solomon Robinson farm at 1,700 feet. C. L. Barron has reached 610 feet in a second test on the J. and L. R. Roberts farm.

In Ritchie County, one-half mile west of Smithville in Murphy district, W. H. Bickel is drilling on the Dewey Gibson farm. On Hughes River near Beatrice post office, C. and H. Oil Co. has a rig on the Albert Pyles farm. One mile south of Smithville, on Leatherbark Creek, Clem Morris has a rig standing for No. 2 Ina Ayers. In Grant district, Clarvin Oil & Gas Co. has moved in a machine for No. 3 on the William Marbury 900-acre tract.

In Roane County, H. H. Staats has rigged up for No. 3 R. R. Petty, in Curtis district. In Harper district, L. C. Young has a location on the Myrtle Kee farm. In Walton district, Paul Weekley and others are down 1,650 feet on the J. H. Brisentine farm.

In Upshur County, Columbian Carbon Co. has made a location on the W. H. Reger farm in Warren district. Its previous test in this county resulted in a fair gas well.

In Wirt County, Glen W. Roberts has a rig standing on the F. J. Mills farm in Burning Springs district. In Reedy district, the test of Batton and Enoch on the J. G. Watkins farm is drilling at 2,250 feet.

In Wetzel County, Manufacturers Light & Heat Co. is spudding on the Harry Palmer farm in Proctor district. In Magnolia district, C. B. Lewis and others are fishing for tools at 1,030 feet on the Josephus Clark heirs farm.

SOUTHEAST OHIO

Eight operations were concluded in Southeast Ohio, which resulted in four producers, two gas wells and one dry hole. In Athens County, Ohio Fuel Gas Co. drilled No. 6,063 on the Sunday Creek Coal Co. lease, Fraction 24, in the SW quarter of section 23, Dover Township. It was drilled through the Clinton sand to 3,695 feet and it was dry.

In Cuyahoga County, C. McMillon completed a test on the VanAkens farm in section 24, Independence Township, at 2,612 feet. It is showing for 15 bbls. a day, natural.

In Knox County, Upham Gas Co. completed a test on the Myrlitta Gann farm in the NE quarter of section 22, Union Township, in the Clinton sand at 2,907 feet. It is a gas well gauging 500,000 feet a day and is spraying some oil. In Harrison Township, Lot 12, Kenova Gas & Oil Co. drilled a test on the White Elliott farm through the Clinton sand and it is dry.

In Licking County, George P. Long Account No. 6 completed No. 3 William Varner in the SW quarter of section 14, Fallsbury Township, in the Clinton sand at 2,939 feet. It produced 35 bbls. the first day after shot. In the NW quarter of section 2, Hanover Township, Pure Oil Co. completed No. 4 C. H. Wright in the same formation at 3,000 feet. After shot it produced 25 bbls. the first day.

In Medina County, Ed. Obermiller drilled a test on the G. Hammond farm in section 13, Liverpool Township, to 2,852 feet. It is a small gas well gauging about 90,000 feet a day. In Chatham Township, Tract 15, Lot 12, E. R. Edson & Son Co. completed No. 71 Ed. G. Miller in the Berea grit at 487 feet. It produced 4 bbls. the first day after shot.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Jan. 18.—In the Turner Valley field active drilling is confined to three areas, two in the recent southern extension. In North Turner Valley, Model Oils No. 3, LSD 1, section 22-20-3w5, looks like a small well. Cable tools are being rigged to clear out the bridge. Naphtha recovery around 25 bbls. a day is indicated. Offsetting it to the east, Royalite Oil Co. No. 27, LSD 4, section 23-20-3w5, is below 4,237 feet and making about 50 feet a day with rotary.

In section 28-18-2w5, South Turner Valley, British Dominion Oil & Development Corp. No. 4, LSD 6, is below 6,315 feet and apparently getting close to the black lime. It entered the Madison at 5,838 feet and has some wet gas with naphtha recovery around 100 bbls. a day. When the black lime is reached, drilling will be discontinued and a production test made. It is on the west flank of the structure. Renfrew Royalties No. 1, Morris & Goodfellow, LSD 3, is cleaning out preparatory to setting casing in top of the Madison at 6,020 feet. Turner Valley Royalties No. 1, LSD 13, is installing rotary to resume from 3,180 feet where 10-inch casing was set. This is the farthest west location.

Possibilities of a new southern extension are being tested in section 21-18-2w5. The southernmost producer is Highwood-Sarcee Oils No. 1 in LSD 16, northwest corner. About a half mile south, Union-Freehold Oil Corp. No. 1, LSD 8, same section, proved the lime at 5,595 feet and is deepening below 6,100 feet, more than 500 feet in the Madison. It is drilling in brown lime with some wet gas but will continue to the black lime. It looks like a fair commercial well.

The southernmost test Highwood-Sarcee Oils No. 2, LSD 1, section 21-18-2w5, is nearly a mile south of Highwood-Sarcee No. 1 and deepening from 2,240 feet, logging satisfactorily with the wells farther north. Last year Okalta Oils No. 6 was spotted in LSD 14, section 16-18-2w5, a little south and west of Highwood-Sarcee No. 2, but no work has been done.

Since the first crude naphtha production in the deep lime was discovered in 1924, the proven area has been gradually extended south. Though the producing area is not continuous, the most prolific sections are in an almost direct line northwest and southeast. The first important area opened south of the old central field was the Home Tract in section 20-19-2w5. Extension in Township 19 continued through sections 17 and 4; and in Township 18 through sections 33 and 28 into section 21-18-2w5, with section 16 indicated as the next potential extension. As the field extended to the south, however, there was also a certain trend of the structure toward the east. One of the best producers in Township 18 was Merland Oil Co. No. 1, LSD 13, section 27-18-2w5, immediately east of section 28. This is regarded as indicating the possibility of good producing wells in section 22-18-2w5, immediately east of section 21. In the northwest corner of section 22, however, Hoffar-Lundy Syndicate No. 1 got a recurrence of the Benton shale at 4,300 feet, but was not carried deep enough to determine the extent of the faulting.

Drilling both east and west of the structural high in section 28-18-2w5 has indicated marked dips in both directions. To the east, Northwest Co. No. 1 C. & E., LSD 5, section 27-18-2w5, got the lime at 5,592 feet and at 6,207 feet faulted back to the Benton shale, finishing a small producer from the upper lime. On the west side of section 28, Renfrew Royalties No. 1, LSD 3, went to 6,005 feet to get the Madison. The discovery well Anaconda No. 1, LSD 15, got the Madison at 5,080 feet. These steep dips, accompanied to the east by faulting, would seem to limit the possible easterly and westerly extension of the producing area and to indicate the southeast line of the steeply dipping structure as the best prospect.

Two east side tests, farther north, shut down at present, may be completed this year. Nolan Hungerford Royalties No. 1, S half LSD 5, section 34-18-2w5, is about a quarter mile north of the Merland No. 1 in section 27; and Livingston Syndicate No. 1, N half same LSD is farther north. The Hungerford well is standing at 3,695 feet and Livingston No. 1 at 3,890 feet.

East of Turner Valley

There are two potential producing areas being tested east of the main Turner Valley fold. On the Aldersyde structure Ranchmen's Gas & Oil Co. No. 1, LSD 16, section 13-20-28w4, is several miles due east of the north-central Turner Valley producing area. It is deepening below 6,662 feet in a very hard formation with some light crude and wet gas. This production is from an upper horizon of the Turner Valley field, possibly the Blairmore, the Madison limestone at this point being very deep. The cardium marker is between 3,000 and 4,000 feet deeper here than in most parts of Turner Valley producing area; so that potential oil horizons are those above the lime. No definite production test has been made. Some 2½ miles south and west, Globe Royalties No. 1, LSD 3, section 2-29-29w5, is rigging and will spud within a few weeks.

Farther north, on the New Valley structure, McLeod Oil Co. No. 1 New Valley, LSD 4, section 6-21-2w5, is down 4,225 feet after a show of gas. This location is on a fold parallel to the North Turner Valley structure but farther north.

The belief is held by a number of operators that this area east of Turner Valley represents a large potential oil field. The Madison limestone is probably beyond reach of the drill, but several upper horizons of the Turner Valley were oil-bearing to some degree and it is argued that where these formations are more deeply buried with protective covering they will yield commercial production, at least in favorable local structures. Ranchmen No. 1 deep test has encountered numerous oil and gas shows with two sands below 6,000 feet which may yield fair pumping production. The formations in the general area are gentler and less steeply inclined than in the Turner Valley field, and easier drilling is anticipated.

In the northern or New Valley section, Clarence Roth, representing a United States syndicate, last year subleased from Turner Valley Oil Co. NW section 1-21-3w5 and SW section 7-21-2w5 for a 21-year period, subject to a small cash rental and royalty on production. The agreement calls for drilling one well on adjacent acreage and the subsequent drilling of two wells in the area subleased. The Roth interests hold considerable acreage in this area, which is north and west of McLeod Oil Co. No. 1 New Valley.

Tests in the Foothills

In the Forest Reserve area west of Olds, Hunter Valley Oil Co. No. 1 McLaren, LSD 12, section 13-31-10w5, is at 5,380 feet and preparing to run casing.

On the Moose Dome west of Calgary, Moose Oils No. 2, LSD 8, section 29-22-6w5, is standing at 252 feet, waiting for cementing equipment to make water shut-off.

On the Pincher Creek structure, Weymarn Petroleum No. 2, LSD 5, section 7-6-1w5, is below 4,850 feet with continued shows of oil and gas.

Border Fields

On the Del Bonita structure south of Lethbridge, Terminal Oil Co. No. 1, H. Orcutt farm, NE section 18-1-21w4, is resuming after the holiday shut-down. After acid treatment the well was deepened 10 feet in the lime to 5,083 feet. It has been partially bridged but flowing around 25 bbls. a day under gas pressure with a potential 100 bbls. when cleaned out. It may later be deepened and given further treatment.

On the Twin River structure, E. H. Rosenburg No. 3 Twin River, LSD 9, section 10-2-20w4, is standing at 333 feet, pending completion of the Terminal well.

On the Comrey structure, southeastern Alberta, McDougall-McLeod Oil Co. No. 1, section 9-1-5w4, is in the red beds around 3,100 feet and carrying 10-inch casing.

Ontario Deep Test

In Dufferin County, Ontario, Hockley Valley Oil Co. No. 1, Ed Williams farm, Lot 11, Concession 7, Mono Township, is below 5,776 feet drilling 3¾-inch hole through 4-inch casing and making between 6 and 12 feet a day. It is the deepest test yet drilled in Ontario. It apparently entered a granite formation between 1,200 and 1,300 feet and drilled 3,000 feet in granite. Below the granite a recurrence of sedimentary formations was encountered. The formation now

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BOOK DEPARTMENT

THE OIL AND GAS JOURNAL

Tulsa, Oklahoma

is a very fine brown sand. Casing was set about 3,000 feet. A heavy greasy substance is brought up on the tools, apparently from a formation underlying the granite intrusion.

In Chatham Township, Kent County, Ontario, Union Gas Co. No. 2, Lot 5, Concession 13, finished dry at 2,135 feet and is being abandoned. It was originally intended to test the Trenton formation, but the bottom of the lime was found 220 feet lower than in No. 1, some 1,500 feet north, with a total of 240 feet additional thickness in the lime. Union No. 1 had two small shows of oil above 1,740 feet, but neither oil nor gas was met in No. 2.

In the Dover field, Kent County, Central Pipe Line Co. No. 4, John Jubenville farm, Lot 2, Front Concession, Dover West Township, is cleaning out cavings. Central No. 5, Eli Jubenville farm, 1,500 feet farther west, is below 900 feet.

South of the River Thames, E. P. Rowe No. 2 Bruette, Lot 5, Front Concession, Raleigh Township, is fishing at 900 feet. East of the field, Massey Oil & Gas Co. No. 1, William Cook farm, Lot 12, Front Concession, Dover East Township, is deepening to the granite without a show.

In the Tilbury field, Kent County, Kent Oil & Gas Syndicate No. 1, Mrs. Beatrice Gifford farm, NE Lot 10, Concession 14, Tilbury East Township, is rigging.

In the Dawn field, Lambton County, G. F. Gregory & Son No. 1, Lot 22, Concession 3, Dawn Township, has been abandoned at 1,150 feet with the tools in the hole. Gregory No. 2, E half Lot 22, Concession 2, is below 635 feet.

In the Eden field, Elgin County, Olga Oil & Gas Co. No. 1, Wilson farm, is around 1,100 feet and waiting for 6¼-inch casing. E. P. Rowe No. 2, Ball farm, Bayham Township, is below 910 feet.

Indians Reject Lease

The registered electors of the Chippewa and Pottawatomie bands of the Walpole Island Indian Reserve on January 13 voted down the proposal to lease drilling rights for 20 years to Fred H. Merritt, formerly of Duluth. Under the proposed lease, the Indians were to receive $40,000 a year rental plus royalties as long as oil was being produced; the first of a series of deep tests to be started by June 1, 1936. The lease was approved by the Department of Indian Affairs at Ottawa, subject to a favorable vote of the Indians.

Turner Valley Officers

Shareholders of the Turner Valley Oil Co. at the annual meeting recently elected the following officers: President, Hugh Melvin; secretary-treasurer, J. H. Williams; directors, Count de Roussy de Sales, Malcolm Millar, W. H. King, J. H. Garden, R. B. Wilkinson.

Gas Well in Wyoming Leads to Oil Field

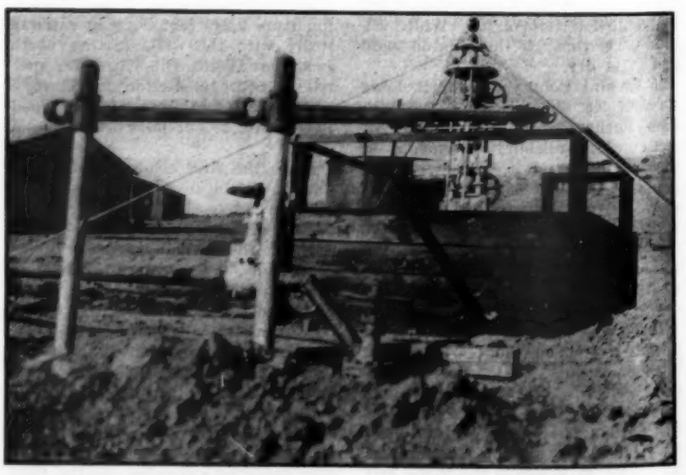
(Continued from Page 12)

acres will produce oil and gas in paying quantities. Only the drill will tell.

The thickness of rich Sundance sand in No. 1 Kyle, 92 feet cored and sand not drilled through, gives promise that the field will be the second richest in Wyoming.

The Salt Creek field in Natrona County, 125 miles north of Medicine Bow, elevation 5,000 feet, is the greatest field discovered in the Rocky Mountain area. From 1912 to January 1, 1935, the Salt Creek field produced 254,000,000 bbls. of light oil and is still producing 450,000 bbls. a month. The nearest producing oil field to Medicine Bow is on Rock Creek, 15 miles east, controlled by Ohio Oil Co. The productive area embraces 1,600 acres. The discovery well was drilled in May, 1918. To January 1, 1935, the field produced 15,753,745 bbls. of oil and the 44 wells are still producing 45,000 bbls. a month.

The oil sand in the Medicine Bow discovery well is thicker and far richer than the Rock Creek sands. When geologists disagree, who is to say what the total recoverable oil under the Medicine Bow structure will prove to be. Estimates range all the way from 20,000,000 to 40,000,000 bbls. One guess is as good as another today. Only on some far day when the last tank of oil is run and the field abandoned will the true figures be available. Then the clank of drilling wells, roar of gas under the boilers, hiss of escaping steam and rumble of trucks will be silenced. The glamor, romance and riches will have vanished and the peace of the desert will again reign over Big Medicine Bow.



Rear view of Medicine Bow discovery well, shut in and ready to produce either as an oil or gas well

U.S. Bureau of Mines Statistics, October, 1935

SUPPLY AND DEMAND OF ALL OILS

(Thousands of barrels of 42 gallons)

	October, 1935	September, 1935	October, 1934	Jan.-Oct., 1935	Jan.-Oct., 1934
NEW SUPPLY:					
Domestic production:					
Crude petroleum	88,160	84,109	76,593	818,755	760,869
Daily average	2,844	2,804	2,471	2,693	2,503
Natural gasoline	3,574	3,202	3,267	31,606	30,053
Benzol*	174	162	120	1,507	1,456
Total production	91,908	87,473	79,980	851,868	792,378
Daily average	2,965	2,916	2,580	2,802	2,607
Imports†:					
Crude petroleum:					
Bonded warehouses	597	886	726	6,202	3,762
For domestic use	1,880	2,022	2,158	20,459	25,682
Refined products:					
Bonded warehouses	918	1,035	814	10,154	8,465
For domestic use	414	804	532	7,325	3,754
Total new supply, all oils	95,717	92,220	84,210	896,008	834,041
Daily average	3,088	3,074	2,716	2,947	2,744
Decrease in stocks, all oils	6,732	4,466	7,195	17,293	21,484
DEMAND:					
Total demand	102,449	96,686	91,405	913,301	855,525
Daily average	3,305	3,223	2,949	3,004	2,814
Exports:					
Crude petroleum	4,810	4,971	3,277	42,991	34,010
Refined products	5,950	7,867	5,959	61,146	61,098
Domestic demand:					
Motor fuel	41,401	37,862	37,674	362,866	341,527
Kerosene	4,520	3,892	3,957	37,847	35,022
Gas oil and fuel oil	30,988	28,160	27,988	283,746	269,111
Lubricants	1,820	1,697	1,674	16,589	15,600
Wax	97	73	75	775	736
Coke	638	548	629	5,486	6,354
Asphalt	1,949	1,889	1,591	14,516	13,270
Road oil	558	1,037	507	6,320	6,048
Still gas (production)	4,273	4,363	3,792	42,081	36,976
Miscellaneous	147	138	126	1,728	1,707
Losses and crude used as fuel	5,298	4,189	4,156	37,210	35,066
Total domestic demand	91,689	83,848	82,169	809,164	760,417
Daily average	2,958	2,795	2,651	2,662	2,501
STOCKS:					
Crude petroleum	317,155	320,705	346,800	317,155	346,800
Natural gasoline	4,384	5,133	4,255	4,384	4,255
Refined products	225,316	227,749	229,659	225,316	229,659
Total, all oils	546,855	553,587	580,714	546,855	580,714
Days' supply	165	172	197	182	206

*From Coal Division. †Imports of crude as reported to Bureau of Mines; imports of refined products from Bureau of Foreign and Domestic Commerce.

COMPARATIVE ANALYSES

(Thousands of barrels of 42 gallons)

	October, 1935 Total	October, 1935 Daily av.	Sept., 1935 Total	Sept., 1935 Daily av.	Jan.-Oct., 1935	Jan.-Oct., 1934
CRUDE PETROLEUM:						
Runs to stills	85,132	2,746	83,347	2,778	798,071	745,259
MOTOR FUEL:						
Production	41,862	1,350	40,094	1,336	383,943	351,899
Imports:						
Bonded warehouses	.....	.....	.....	.....	20	.....
For domestic use	.....	.....	.....	.....	.....	1
Exports*	2,461	79	2,985	100	24,087	20,841
Stocks, gasoline	44,373	.....	45,624	.....	44,373	45,212
Stocks, nat. gasoline	4,384	.....	5,133	.....	4,384	4,255
Domestic demand	41,401	1,336	37,862	1,262	362,866	341,527
KEROSENE:						
Production	4,978	161	4,498	150	46,311	44,292
Exports	378	12	766	26	6,544	8,331
Stocks	9,318	.....	9,238	.....	9,318	7,497
Domestic demand	4,520	146	3,892	130	37,847	35,022
GAS OIL, FUEL OIL:						
Production	30,174	973	29,162	972	277,392	271,648
Transfers†	1,546	50	1,218	41	10,967	6,522
Imports:						
Bonded warehouses, for supplies of vessels	918	30	1,035	35	10,132	7,248
For domestic use	409	13	799	27	7,044	3,301
Exports	2,248	73	3,195	107	22,234	23,252
Stocks	109,952	.....	110,141	.....	109,952	119,360
Domestic demand	30,988	1,000	28,160	939	283,746	269,111
Railroad (Class I)‡	(§)	(§)	3,837	128	¶34,179	¶32,656
Pub. util. pow. plants‖	1,164	38	1,040	35	9,081	8,685
Other	29,824	962	23,283	776	240,486	227,770
Bunker oil, foreign	2,661	86	2,473	82	24,715	24,455
Bunker oil, constwise	**1,488	48	**992	33	19,975	20,641
LUBRICANTS:						
Production	2,463	79	2,357	79	22,834	21,937
Imports	.....	.....	.....	.....	.....	2
Exports	638	21	702	23	6,964	6,500
Stocks	6,612	.....	6,607	.....	6,612	6,939
Domestic demand	1,820	59	1,697	57	16,589	15,600
WAX (thous. of lbs.):						
Production	39,200	1,265	36,400	1,213	368,200	391,720
Imports:						
Bonded warehouses	.....	.....	.....	.....	294	3,543
For domestic use	1,118	36	658	22	18,117	29,886
Exports	20,021	646	21,613	720	180,935	164,896
Stocks	124,557	.....	131,560	.....	124,557	123,099
Domestic demand	27,300	881	20,531	684	217,255	206,271
COKE (short tons):						
Production	118,600	3,826	122,800	4,093	1,244,600	1,089,400
Stocks	426,800	.....	453,800	.....	426,800	464,100
ASPHALT (short tons):						
Production	351,100	11,326	342,900	11,430	2,795,800	2,460,500
Imports (natural)	.....	.....	.....	.....	24,200	14,700
Stocks	340,500	.....	354,100	.....	340,500	291,900

*Includes benzol, 46,916 bbls. in October, 1935. †Net transfers in California. ‡I.C.C. §Not available. ¶Jan.-Sept. ‖U. S. Geol. Survey. **Exclusive of Los Angeles.

PRODUCTION OF MOTOR FUEL

(Thousands of barrels of 42 gallons)

	October, 1935 Total	October, 1935 Daily av.	Sept., 1935 Total	Sept., 1935 Daily av.	Jan.-Oct., 1935	Jan.-Oct., 1934
Refinery gasoline:						
Straightrun	19,507	629	18,810	627	181,368	172,832
Cracked	18,732	604	18,070	602	171,604	150,581
Natural gasoline:						
Production	3,574	115	3,202	107	31,606	30,053
Deduct losses	125	4	150	5	2,142	3,023
Benzol	174	6	162	5	1,507	1,456
Total motor fuel	41,862	1,350	40,094	1,336	383,943	351,899

PRODUCTION OF CRUDE PETROLEUM BY STATES AND PRINCIPAL FIELDS

(Thousands of barrels of 42 gallons)

	October, 1935 Total	October, 1935 Daily av.	Sept., 1935 Total	Sept., 1935 Daily av.	Jan.-Oct., 1935	Jan.-Oct., 1934
Arkansas	930	30.0	878	29.3	9,181	9,358
California:						
Huntington Beach	1,340	43.2	1,283	42.8	12,513	12,578
Kettleman Hills	3,104	100.1	2,642	88.1	21,018	17,775
Long Beach	2,407	77.7	2,435	81.1	21,710	19,077
Santa Fe Springs	1,698	54.8	1,644	54.8	12,845	13,331
Rest of state	11,603	374.3	11,206	373.5	98,424	83,575
Total California	20,152	650.1	19,210	640.4	166,510	146,336
Colorado	130	4.2	138	4.6	1,299	942
Illinois	391	12.6	370	12.3	3,592	3,353
Indiana	68	2.2	66	2.2	639	716
Kansas	4,785	154.4	4,550	151.7	45,950	38,577
Kentucky	462	14.9	433	14.4	4,440	3,981
Louisiana:						
Gulf Coast	3,807	122.8	3,545	118.2	32,690	18,862
Rest of state	948	30.6	826	27.5	7,408	7,616
Total Louisiana	4,755	153.4	4,371	145.7	40,098	26,478
Michigan	1,649	53.2	1,448	48.3	12,449	8,944
Montana	409	13.2	408	13.6	3,755	3,875
New Mexico	1,822	58.8	1,762	58.7	16,930	13,947
New York	370	11.9	348	11.6	3,517	3,133
Ohio:						
Central and East	286	9.3	281	9.4	2,651	2,725
Northwestern	81	2.6	74	2.5	783	832
Total Ohio	367	11.9	355	11.9	3,434	3,557
Oklahoma:						
Oklahoma City	4,348	140.3	4,012	133.7	46,413	53,191
Seminole	4,083	131.7	3,951	131.7	39,709	32,098
Rest of state	7,519	242.5	6,971	232.4	68,544	66,173
Total Oklahoma	15,950	514.5	14,924	497.8	154,666	151,462
Pennsylvania	1,356	43.8	1,251	41.7	13,233	12,061
Texas:						
Gulf Coast	5,571	179.7	5,300	176.7	52,126	50,296
West Texas	4,727	152.5	4,509	150.3	45,662	41,955
East Texas	14,720	474.8	14,524	484.1	147,324	154,631
Panhandle	1,636	54.4	1,673	55.8	17,664	16,797
Rest of state	6,292	203.0	6,058	201.9	61,561	57,690
Total Texas	32,996	1,064.4	32,064	1,068.8	324,348	321,369
West Virginia	357	11.5	314	10.5	3,302	3,424
Wyoming:						
Salt Creek	527	17.0	510	17.0	5,216	5,443
Rest of state	680	21.9	694	23.2	6,159	5,060
Total Wyoming	1,207	38.9	1,204	40.2	11,375	10,503
Other*	4	...	5	...	37	43
Total U. S.	88,160	2,843.9	84,109	2,803.6	818,755	760,869

*Includes Missouri, Mississippi, Tennessee, and Utah.

STOCKS OF CRUDE PETROLEUM BY DISTRICTS AND GRADES

(Thousands of barrels of 42 gallons)

	Oct. 31, 1935	Sept. 30, 1935	Oct. 31, 1934
At refineries by location:			
East Coast: Domestic	10,039	10,844	11,356
Foreign	2,053	2,502	2,302
Appalachian	1,618	1,720	1,270
Indiana, Illinois, Kentucky, Michigan	3,452	4,046	4,064
Oklahoma, Kansas and Missouri	4,471	4,525	6,093
Texas: Inland	1,465	1,238	2,081
Gulf Coast: Domestic	10,493	9,783	10,330
Foreign	544	542	469
Louisiana Gulf Coast: Domestic	3,539	4,029	3,522
Foreign	331	590	483
Arkansas and Inland Louisiana	995	1,038	847
Rocky Mountain	12,751	12,853	13,521
California	7,437	7,822	9,720
Total	59,188	61,532	66,059
At refineries by origin:			
Pennsylvania Grade	1,389	1,386	1,151
Other Appalachian (inc. Kentucky)	482	502	604
Lima-N.E. Indiana-Michigan	640	628	457
Illinois-S.W. Indiana	69	108	124
N. Louisiana and Arkansas	2,708	2,471	2,090
West Texas and S. E. New Mexico	3,080	3,246	3,927
East Texas	5,720	6,110	7,871
Oklahoma, Kansas, N. Texas, etc.	13,317	*14,073	16,922
Gulf Coast	8,682	*8,717	6,450
Rocky Mountain	12,736	12,835	13,488
California	7,437	7,822	9,720
Foreign	2,928	3,634	3,255
Total	59,188	61,532	66,059
Pipe line and tank farm:			
Pennsylvania Grade	3,645	3,694	3,805
Other Appalachian (inc. Kentucky)	416	444	504
Lima-N.E. Indiana-Michigan	968	962	1,073
Illinois-S.W. Indiana	11,056	11,161	11,456
N. Louisiana and Arkansas	8,093	8,374	8,287
West Texas and S. E. New Mexico	26,469	26,620	25,528
East Texas	18,588	19,814	27,028
Oklahoma, Kansas, N. Texas, etc.	122,065	122,991	141,523
Gulf Coast	16,949	16,157	12,359
Rocky Mountain	14,568	14,716	14,734
California	24,367	24,142	25,895
Total	247,184	249,075	272,192
Lease (producers') stocks	10,783	10,098	8,549
Total refinable crude in the U. S.	317,155	320,705	346,800

*Revised.

PRODUCTION AND DISTRIBUTION OF NATURAL GASOLINE

(Thousands of barrels of 42 gallons)

	October, 1935 Total	October, 1935 Daily av.	Sept., 1935 Total	Sept., 1935 Daily av.	Jan.-Oct., 1935	Jan.-Oct., 1934
Production	3,574	115	3,202	107	31,606	30,053
Decrease in all stocks	749	24	445	15	.....	.....
Total	4,323	139	3,647	122	31,606	30,053
Blended in refineries	3,626	117	2,873	96	23,203	20,851
Run through pipe lines in California	91	3	64	2	590	1,080
Jobbers, exports, etc.	481	15	560	19	5,503	4,524
Increase in all stocks	.....	.....	.....	.....	168	575
Losses	125	4	150	5	2,142	3,023
Total	4,323	139	3,647	122	31,606	30,053

RUNS TO STILLS AND OUTPUT OF REFINERIES, OCTOBER, 1935

(Thousands of barrels of 42 gallons)

INPUT—	Crude runs: Domestic	Foreign	Total	Unfin. rerun (net): Crude gaso.	Other	Natural gasoline
East Coast	12,075	2,484	14,559	116	—549	241
Appalachian	3,394	.....	3,394	8	137	32
Ind., Ill., Ky., etc.	11,687	.....	11,687	283	—4	402
Okla., Kans., Mo.	9,255	.....	9,255	—130	334	711
Texas Inland	5,464	.....	5,464	—10	—74	510
Texas Gulf	16,926	428	17,354	23	823	329
Louisiana Gulf	3,766	254	4,020	41	—209	29
Ark. and La. Inland	1,435	.....	1,435	.....	—19	57
Rocky Mountain	1,646	.....	1,646	1	51	95
California	16,318	.....	16,318	—47	—136	*1,300
Total	81,966	3,166	85,132	285	354	3,717

OUTPUT—	Gasoline	Kerosene	Gas oil and distillate fuels	Residual fuel oils	Lubricants	Wax (thous. of lbs.)
East Coast	6,435	843	1,549	3,120	603	17,920
Appalachian	1,671	259	220	472	520	7,560
Ind., Ill., Ky., etc.	7,354	494	1,131	1,741	272	1,960
Okla., Kans., Mo.	5,567	684	842	1,790	317	2,800
Texas Inland	3,072	291	475	1,603	26	280
Texas Gulf	8,174	1,617	2,090	4,750	447	4,200
Louisiana Gulf	1,515	357	552	1,040	73	2,520
Ark. & La. Inland	634	85	128	421	22	.....
Rocky Mountain	961	41	102	372	23	1,960
California	6,643	397	1,979	7,343	160	.....
Total	41,956	4,978	9,068	22,652	2,463	39,200

OUTPUT—Cont'd.	Coke (tons)	Asphalt (tons)	Road oil	Still gas	Miscellaneous	Shortage
East Coast	2,000	159,100	28	770	42	24
Appalachian	2,400	9,100	2	207	22	109
Ind., Ill., Ky., etc.	57,600	63,500	—25	900	14	4
Okla., Kans., Mo.	22,000	7,400	65	457	9	277
Texas Inland	2,400	8,200	1	110	5	249
Texas Gulf	14,200	18,400	15	1,175	9	75
Louisiana Gulf	7,000	23,800	.....	152	2	15
Ark. and La. Inland	200	9,600	39	42	6	42
Rocky Mountain	9,800	8,200	30	99	15	49
California	.....	43,800	199	361	23	84
Total	118,600	351,100	354	4,273	152	928

*Includes 91,000 bbls. run through pipe lines.

CRACKED OPERATIONS

	Bbls.
Fresh cracking stock charged to stills:	
Crude	6,161,000
Other oils	41,032,000
Gasoline produced by cracking	18,732,000
Fuel oil produced by cracking	17,967,000

STOCKS HELD BY REFINING COMPANIES, OCTOBER 31, 1935

(Thousands of barrels of 42 gallons)

	Finished gasoline: At refineries	Bulk and pipe lines	Unfinished gasoline	Total gasoline	Kerosene	Gas oil and distillate fuel oils
East Coast	4,450	7,676	848	12,974	2,787	5,997
Appalachian	1,144	1,020	316	2,480	221	242
Ind., Ill., Ky. etc.	4,160	3,674	573	8,407	595	2,578
Okla., Kans., Mo.	2,967	1,427	554	4,948	516	1,255
Texas Inland	1,421	14	251	1,686	216	342
Texas Gulf	5,062	464	1,486	7,012	2,278	5,036
Louisiana Gulf	592	397	218	1,207	831	1,449
Ark. and La. Inland	222	90	31	343	29	102
Rocky Mountain	683	.....	97	780	127	171
California	6,579	2,331	1,051	9,961	1,798	7,126
Total	27,280	17,093	5,425	49,798	9,318	24,299

	Residual fuel oil	Lubricants	Wax (thous. of pounds): Crude scale	Refined	Total
East Coast	6,013	2,052	19,672	18,242	37,914
Appalachian	419	815	16,954	2,523	19,477
Ind., Ill., Ky., etc.	2,714	456	15,207	1,368	16,575
Okla., Kans., Mo.	3,318	472	2,821	644	3,465
Texas Inland	1,808	101	.....	204	204
Texas Gulf	7,640	1,542	1,902	23,956	25,858
Louisiana Gulf	2,419	77	676	1,504	2,180
Ark. and La. Inland	299	25	.....	.....	.....
Rocky Mountain	535	100	17,565	1,319	18,884
California	59,288	971	.....	.....	.....
Total	85,653	6,612	74,797	49,760	124,557

	Coke (tons)	Asphalt (tons)	Road oil	Miscellaneous	Other unfinished	Natural gasoline
East Coast	20,100	111,900	33	51	9,070	143
Appalachian	10,800	8,300	6	35	1,889	2
Ind., Ill., Ky., etc.	54,300	66,000	97	19	5,706	42
Okla., Kans., Mo.	41,300	8,500	146	19	5,276	67
Texas Inland	13,700	2,000	55	3	1,056	14
Texas Gulf	93,600	14,500	21	22	11,138	128
Louisiana Gulf	35,200	37,600	1	4	2,091	.....
Ark. and La. Inland	100	24,600	15	.....	461	4
Rocky Mountain	79,200	8,800	311	11	1,626	84
California	78,400	57,300	197	52	5,773	1,458
Total	26,800	340,500	882	216	44,086	1,942

Grand total stocks refined products, 225,316,000 bbls.

RECORD OF WELLS FOR IMPORTANT FIELDS AND DISTRICTS, OCTOBER, 1935*

	Completions: Oil	Gas	Dry	Total initial prod. (bbls.)	Aver. initial prod. (bbls.)	Drilling end month
Texas	608	15	196	428,800	705	1,035
East Texas	222	...	6	297,500	1,340	134
Gulf Coast	62	6	31	27,000	435	147
Panhandle	47	6	1	26,200	555	154
West Texas	72	...	9	31,300	435	215
California	70	...	22	47,000	670	241
Kettleman Hills	4	...	...	11,400	2,850	22
Long Beach	10	...	9	1,400	140	38
Oklahoma	121	6	52	139,700	1,070	521
Fontotoc Co. (Fitts)	22	1	5	46,700	2,125	55
Seminole district	18	...	6	7,900	440	55
Louisiana	24	12	21	46,200	1,650	139
Gulf Coast	15	...	10	11,700	780	58
Bodcaw	4	1	...	21,900	3,900	†38
Other states	391	82	109	169,200	435	1,043
Total United States:						
Oct., 1935	1,218	115	491	820,900	675	2,979
Sept., 1935	1,432	79	289	874,200	610	2,976
Oct., 1934	1,171	162	466	882,000	755	2,879
Jan.-Oct., 1935	12,564	1,123	4,057	10,021,700	780	2,979
Jan.-Oct., 1934	10,435	1,102	3,539	9,273,900	890	2,879

*From The Oil and Gas Journal and California office of the American Petroleum Institute. †Includes wells drilling in Texas.

STOCKS OF CRUDE PETROLEUM BY STATES

(Thousands of barrels of 42 gallons)

	Location*: October 31, 1935: At refineries	At tank farm and in pipe lines	On leases	Total	Origin†: Sept. 30, 1935 Total	Oct. 31, 1935 Total	Sept. 30, 1935 Total
Arkansas	651	3,049	245	3,945	4,121	6,564	6,589
California	7,437	24,367	3,787	35,591	34,981	35,591	34,981
Colorado	306	93	30	429	404	506	481
Georgia‡	608	.....	.....	608	663	.....	.....
Illinois	1,057	10,429	100	11,586	11,877	11,196	11,344
Indiana	979	1,787	8	2,774	3,329	37	38
Kansas	1,534	10,045	475	12,054	11,982	5,352	5,084
Kentucky§	459	304	40	803	815	773	797
Louisiana¶	4,259	5,726	395	10,380	11,792	9,435	9,818
Maryland	1,164	.....	.....	1,164	1,022	.....	.....
Massachusetts‖	1,066	.....	.....	1,066	1,042	.....	.....
Michigan	143	516	100	759	751	1,133	1,126
Missouri**	182	3,365	.....	3,547	3,562	.....	.....
Montana	258	824	100	1,182	1,245	1,183	1,226
New Jersey	5,064	414	.....	5,478	6,170	.....	.....
New Mexico	6	324	305	635	650	5,137	5,505
New York	1,347	155	18	1,520	1,574	487	491
Ohio	988	6,541	65	7,594	7,802	1,038	x1,012
Oklahoma	2,755	68,725	1,780	73,260	73,852	96,462	97,159
Pennsylvania	4,181	1,660	100	5,941	6,606	2,611	2,700
Texas	12,502	93,345	2,745	108,592	107,998	108,701	x110,474
Utah	198	.....	.....	198	207	.....	.....
West Virginia	61	1,892	135	2,088	2,107	1,956	1,963
Wyoming xx	11,983	13,623	355	25,961	26,152	26,065	26,283
Foreign	.....	.....	.....	.....	.....	2,928	3,634
Total United States	59,188	247,184	10,783	317,155	320,705	317,155	320,705

*Segregated by states of location regardless of origin. †Segregated by states of production (origin) regardless of location. ‡Includes Delaware, South Carolina, and Virginia. §Includes Tennessee. ¶Includes Alabama. ‖Includes Rhode Island. **Includes Iowa. xRevised. xxIncludes Nebraska.

MOVEMENT OF CRUDE OIL AND REFINED PRODUCTS TO EASTERN PORTS IN THE UNITED STATES

(Thousands of barrels of 42 gallons)

	October, 1935	September, 1935	October, 1934	Jan.-Oct., 1935	Jan.-Oct., 1934
California to East Coast:					
Gasoline	389	272	981	6,169	7,122
Kerosene	72	5	168	930	1,259
Gas oil and fuel oil	79	79	645	722	12,770
Lubricants	.....	13	8	68	56
Miscellaneous	66	3	3	514	130
Total	606	372	1,805	8,453	21,337
Gulf to East Coast*:					
Crude	11,143	11,671	(†)	118,196	(†)
Gasoline‡	7,112	5,892	(†)	61,829	(†)
Kerosene	1,467	1,169	(†)	10,701	(†)
Gas oil and fuel oil	6,022	8,875	(†)	48,991	(†)
Lubricants	251	148	(†)	1,714	(†)
Miscellaneous	.....	16	(†)	74	(†)
Total	25,995	27,771	(†)	241,505	(†)
Foreign crude to East Coast:					
Colombia	.....	.....	.....	.....	2,921
Ecuador	.....	.....	.....	.....	79
Mexico	274	255	186	1,981	3,885
Trinidad	.....	.....	.....	117	23
Venezuela	1,773	2,029	2,138	18,855	20,091
Total	2,047	2,284	2,324	20,953	26,999
Foreign crude to Gulf Coast:					
Colombia	430	425	331	3,600	542
Mexico	.....	121	54	679	1,192
Venezuela	.....	68	175	1,429	711
Total	430	624	560	5,708	2,445

*From Division of Investigations, Department of the Interior. †Not available. ‡Includes natural gasoline.

GASOLINE PRODUCTION BY THE VARIOUS METHODS, OCTOBER, 1935

(Thousands of barrels of 42 gallons)

	Straightrun: Total	Per cent (*)	Per cent (†)	Cracked: Total	Per cent (*)	Per cent (†)	Nat gaso.: Total	Per cent (†)	Gasoline: Total	Per cent (*)
East Coast	2,547	17.5	39.6	3,647	25.0	56.7	241	3.7	6,435	42.5
Appalachian	809	23.8	48.4	830	24.5	49.7	32	1.9	1,671	48.3
Ind., Ill., etc.	2,975	25.5	40.9	3,906	33.4	53.6	403	5.5	7,284	58.9
Okla., Kans., Mo.	2,688	29.1	48.3	2,168	23.4	38.9	711	12.8	5,567	52.5
Texas Inland	1,704	31.2	55.5	858	15.7	27.9	510	16.6	3,072	46.9
Texas Gulf	3,517	20.2	43.0	4,318	24.9	52.8	339	4.2	8,174	45.1
Louisiana Gulf	765	19.0	50.5	721	18.0	47.6	29	1.9	1,515	37.0
Ark. and La. Inland	307	21.4	48.4	270	18.8	42.6	57	9.0	634	40.2
Rocky Mountain	449	27.3	46.7	417	25.3	43.4	95	9.9	961	53.6
California	3,746	22.9	56.4	1,597	9.8	24.0	1,300	19.6	6,643	32.7
Total	19,507	22.9	46.5	18,732	22.0	44.6	3,717	8.9	41,956	44.9

*Per cent of crude run. †Per cent of total gasoline output.

PRODUCTION OF CRUDE PETROLEUM BY DISTRICTS

(Thousands of barrels of 42 gallons)

	October, 1935: Total	Daily av.	Sept., 1935: Total	Daily av.	Jan.-Oct., 1935	Jan.-Oct., 1934
Appalachian:						
Pennsylvania Grade	2,225	71.8	2,064	68.8	21,339	19,955
Other (inc. Ky.)	607	19.6	564	18.8	5,813	5,387
Lima-NE Ind.-Mich.	1,730	55.8	1,522	50.8	13,232	9,796
Ill.-SW Ind.	459	14.8	436	14.5	4,231	4,549
Mid-Continent:						
N. La. and Ark.	1,878	60.6	1,705	56.8	16,590	16,974
W. Tex.-SE New Mex.	6,513	210.1	6,236	207.9	62,269	55,586
East Texas	14,720	474.8	14,524	484.1	147,334	154,631
Other (Okla., Kans., N. Tex., etc.)	28,715	926.3	27,217	907.2	279,859	264,857
Gulf Coast	9,378	302.5	8,845	294.9	84,816	69,155
Rocky Mountain	1,783	57.5	1,786	59.5	16,762	14,640
California	20,152	650.1	19,210	640.3	166,510	145,336
Total	88,160	2,843.9	84,109	2,803.6	818,755	760,869

SHIPMENTS OF MOTOR FUEL BY PIPE LINES

(Thousands of barrels of 42 gallons)

	October, 1935	September, 1935	October, 1934	Jan.-Oct., 1935	Jan.-Oct., 1934
Motor fuel turned into lines	4,618	4,107	4,226	41,838	37,843
Motor fuel delivered from lines	4,591	4,324	4,287	41,695	37,797
Shortage	38	20	16	237	98
Stocks in lines and working tanks end of month	2,039	2,050	1,265	2,039	1,265

WILDCAT OPERATIONS

OKLAHOMA WILDCATS

Week Ending January 18

NORTHERN OKLAHOMA

Alfalfa County

Tex-O-Kan. Oil Co. No. 1 Acre, C SW NE Sec. 14-24-11w.
Sylvan shale 7,065 ft.; smell of gas 7,155-60 ft.; coring at 7,172 ft. in Dolomite.

Beaver County

Anderson & Kerr et al's No. 1 Davis, C SW SE Sec. 36-5-26 (Cimarron Meridian).
Drlg. 5,870 ft.

Beckham County

Benonine Oil Co. No. 1 Smith, SW cor. Sec. 17-8-23w.
Drlg. 1,978 ft. in lime.

Speed & Barker No. 1 Stephens, SW SW NW sec. 19-9-22w.
Rig on ground.

Wood Pet. & Royalty Corp. No. 1 Blair, C NW SE sec. 32-9-26w.
T.D. 1,040 ft.; running 8-in. csg.

Caddo County

Denver Prod. & Ref. Co. No. 1 Sah-Can, C SE SE Sec. 33-10-10w.
Drlg. 9,480 ft.

H. W. Lee et al No. 1 Horton, NE cor. Sec. 9-6-13w.
S.D. at 2,001 ft.

F. A. Turner et al No. 1 Sapin, NE NE SW Sec. 1-5-11w.
T.D. 3,440 ft.; drlg. cmt. 3,335 ft.

Cleveland County

Asa Lee Mayes, Inc. No. 1 Parsons, SW SW SE Sec. 30-9-1.
S.D. at 3,500 ft.

Hall-Briscoe, Inc. No. 1 Fant, SW SW NE Sec. 27-10-2w.
S.D. at 7,511 ft.

Coal County

Carter Oil Co. et al No. 1 Thompson, C S½ NE NW Sec. 34-2-9.
Drlg. 6,839 ft.

Shell Pet. Corp. No. 3 Hill, SE SE NW sec. 30-3-10.
T.D. 580 ft.; W.O.C.

Southern Oil Co.'s No. 1 Fish, SW SW SW Sec. 6-1s-8.
H.F.W. 1,155-63 ft.; drlg. 1,500 ft.

Comanche County

John Nicholas' No. 1 Householder, NE NE SW Sec. 3-2-10w.
T.D. 959 ft.; S.D. for pipe.

Geo. Pace et al's No. 1 Spencer, SW cor. SE Sec. 21-3-10w.
T.D. 4,164 ft. in Granite wash; P.B. to 1,850 ft.; W.O.C. 1,648 ft.

Creek County

Summit Drilling Co. et al No. 1 Stone, SW SE NW sec. 12-14-7.
Wilcox sand 4,007 ft.; T.D. 4,025 ft.; dry and abd.

Garfield County

Earl McBride et al No. 1 Gage estate, SE NW Sec. 27-22-3w.
S.D. at 1,090 ft.

W. J. Sherry et al No. 1 Haken, NW NW SW sec. 32-20-10w.
T.D. 290 ft.; W.O.C.

Garvin County

Chas. E. Carter et al No. 1 Wood, NW SW SE sec. 5-4-3.
Old T.D. 2,405 ft.; to deepen.

Mid-Continent Pet. Corp. No. 1 Butler, SW NW SW Sec. 7-3-1.
Drlg. 4,920 ft.

Buggett & McElreath No. 1 Hyre, NE NE SE sec. 23-3-1w.
T.D. 178 ft.; W.O.C.

Grant County

Southern Oil Co. et al's No. 1 Allen, SW SE Sec. 36-26-4w.
T.D. 5,208 ft.; drlg. by, 5,164 ft.

Hughes County

Brady Oil Co. No. 1 Culver, NE SE NW Sec. 28-7-9.
Location.

W. F. Canavan No. 1 Meadors, SE NE SE sec. 5-8-10.
Drlg. 1,200 ft.

M. H. Halsey No. 1-A Eustep, NW NW SW sec. 11-8-9.
Booch sand 2,665 ft.; cores 2,867-76 ft., showing gas; drlg. 3,140 ft.

Schumacher et al No. 1 Schumacher, NE NW NE Sec. 23-5-10.
Drlg. 1,040 ft.

Sivalls et al No. 1 Montgomery, NW SW NW Sec. 7-9-9.
T.D. 2,040 ft.; S.D.

Kay County

Ben Head et al No. 1 Bealveal, SW cor. Sec. 8-25-1w.
Rigging up rotary at 50 ft.

Black Gold Pet. Co. No. 1 Cooley, NE NW SW sec. 25-28-4e.
Fishing 250 ft.

A. D. Morton No. 1 Warren, SE SE NW Sec. 19-29-4.
Mississippi lime 3,169 ft.; S.D. at 3,210 ft.; dry and abd.

Kiowa County

Beeler & Klein No. 1 Van Kirk, NE SW Sec. 35-7-15w.
T.D. 607 ft.; S.D.

Burns & Moore's No. 1 Webster, C NE NE sec. 2-6-17w.
Drlg. 50 ft.

Rajah Oil Co.'s No. 3 Stone, C SE NE Sec. 34-7-17w.
Salt water 1,480-1,547 ft., T.D.; plugged back to 960 ft.; acidized; pumped 13 bbls. in 8 hrs.; S.D. for pumping equipment.

Lincoln County

M. W. Cozart No. 1 Sekovaty, NE NE NW sec. 14-14-3e.
Cellar and pits.

Fred McDuff's No. 1 Jacob, NE NE SE Sec. 10-15-5.
Rig.

Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Crawford, NE NE SE Sec. 35-15-2.
First Wilcox, 5,110 ft.; second Wilcox, 5,218 ft.; good showing of oil and gas: W.O.C.; T.D. 5,229 ft.; standardizing.

Texas Co.'s No. 1 Andrew, NW NE SE sec. 28-14-5.
T.D. 3,593 ft.; showing oil and wtr.

Texas Co.'s No. 1 Vanderpool, NW SW SE Sec. 11-16-2.
Viola lime 4,670 ft.; drlg. 4,746 ft.

Logan County

Springrose Drlg. Co. No. 1 Wright, SW SW NW Sec. 32-15-1.
S.D. 5,112 ft.; lost circulation.

Stanolind O. & G. Co., Amerada Pet. Corp. and Eason O. & R. Co.'s No. 1 Gragg, SW SW NE Sec. 20-18-4w.
Viola lime 5,835 ft.; T.D. 5,860 ft.; standardizing.

McClain County

Arab Pet. Corp. No. 1 Autry, NW cor. Sec. 16-7-3w.
Drlg. 5,650 ft.

McIntosh County

Indian Ty. Ill. Oil Co.'s No. 1 Tancred, 1,050 ft. S and 390 ft. E of C. Sec. 9-9-14.
Gilcrease sand, 2,695-2,732 ft.; 20,000,000 ft. of gas; T.D. 2,967 ft.; taking pressure tests.

Oklahoma Oil Corp. No. 1-A Wolf, SE SW SE sec. 35-12-17.
Rigging up machine.

Murray County

Hornsby & Jones' No. 1 Sadler, NE NE NW sec. 20-1-2.
T.D. 1,680 ft.; S.D.

Okfuskee County

Manahan & Grisso No. 1 Dalton, SE SE SE sec. 36-10-8.
Rig.

W. J. Sherry et al's No. 1 Washington, SW SW NE Sec. 21-13-7.
P.B. 4,130 ft.; fishing for bailer.

Oklahoma County

Mid-Continent Pet. Corp. No. 1 Dahl, NE NE NW Sec. 3-13-3w.
Oswald lime 6,128 ft.; drlg. 6,446 ft.

Sinclair Prairie Oil Co. et al No. 1 Heavey, NE NE NW Sec. 19-13-3w.
Drlg. 5,653 ft.

Sinclair Prairie O. & G. Co.'s No. 1 Corbett, NE NW NE Sec. 17-13-3w.
Wilcox sand 6,645-6,706 ft.; drlg. 5,893 ft.

Payne County

Deep Rock Oil Corp. No. 1 Ryan Est., NE SW SW sec. 34-18-5.
Prue formation 3,052-90 ft.; 9,000,000 ft. of gas; may deepen a few feet.

Pittsburg County

Vaughn Production Co. et al's No. 1 Chunn, 990 ft. N and 614 ft. W of C Sec. 29-4-14.
S.D. 1,170 ft.

Pontotoc County

W. A. Delaney et al No. 1 Hillsdale, SE SE NE sec. 35-4-6.
Drlg. 1,512 ft.

Gypsy Oil Co.'s No. 1 Emry, SW SW NE Sec. 15-2-6.
Drlg. 5,485 ft.

Patsy Oil Co. No. 1 Magnuson, SW SE SE sec. 23-2-7.
Old T.D. 1,930 ft.; drlg. 3,110 ft.

Pioneer O. & G. Co. No. 1 Bayne, SE SW SW Sec. 16-5-6.
(Old well deepening); T.D. 3,016 ft.; P.B. to 3,006 ft.; acidized and no results; P.B. to 2,760 ft.; 1,600 ft. of oil in hole; testing.

Pottawatomie County

Ark Oil Co. No. 1 Sparkman, SE SE NE sec. 33-8-4.
Hunton lime 3,850 ft.; T.D. 4,137 ft.; acidized; flowed 1,268 bbls. of oil in 48 hrs.

Magnolia Petroleum Corp. No. 1 Devault, SW NW SE sec. 22-6-4.
R.U. rotary.

Ross Oil Co. et al's No. 1 Sparkman, SE NE Sec. 33-8n-4e
C.O. 3,915 ft.; shot at 3,871-90 ft.; swbd. 250 bbls. in 24 hrs.; acidized.

Roger Mills County

Anderson & Kerr et al No. 1 Teeter, C SE SE Sec. 2-17-25w.
Drlg. 6,250 ft.

Seminole County

Sinclair Prairie Oil Co. et al No. 1 Harrison, NE NE NW Sec. 17-8-8.
Location.

Felmlee & Nichaelson No. 1 Belford, SE NW NE sec. 15-9-8.
Sand 1,460-1,505 ft.; showing oil and gas; fishing at 1,525 ft.

Washita County

L. P. McWhirter's No. 1 fee, SW cor. Sec. 24-8n-19w.
T.D. 1,347 ft.; S.D.

SOUTHERN OKLAHOMA

Atoka County

R. H. Pierce et al's No. 1 Aetna Life Ins. Co., NW SW NE Sec. 10-1n-13e.
T.D. 4,004 ft.; dry and abd.

Vierson et al's No. 1 Williams, NE SW NW Sec. 34-2s-10.
Drlg. 3,600 ft.

Bryan County

H. B. Smith et al's No. 1 Henry, C NW NE Sec. 10-8s-7e.
Rig.

Carter County

Carter Oil Co.'s No. 1 Carter-Williams, SW NE SW Sec. 27-2s-3w.
T.D. 8,088 ft., flowed 10,000 bbls. of oil in 24 hrs.; pipe stuck; cmtng. to sidetrack at 6,850 ft.

Schermerhorn Oil Co. No. 1 Clowdus, NW NW NE sec. 2-4s-2w.
R.U. machine.

Southern States Oil Dev. Co. No. 1 Moore, NE SE NW sec. 30-4s-1w.
T.D. 10 ft.; waiting for bits.

Texas Co. No. 1 Cathey, SE NE NE sec. 6-5s-1w.
Set 8⅝-in. pipe at 4,098 ft.; T.D. 4,157 ft.; standardizing.

Cotton County

Grace & Woods No. 1 Henderson, NE SE SW sec. 27-4s-11w.
Drlg. 1,388 ft.

Jackson County

Associated Oil Co.'s No. 1 Harrell, NE NE SE Sec. 13-1s-21w.
S.D. 1,360 ft.

A. H. Jackman No. 1 fee, SW SW SW sec. 27-1s-24w.
H.F.W. 428-31 ft.; drlg. 620 ft.

Universal Oil Co. No. 1 R. W. Briscoe, NW SW NE sec. 36-1s-20w.
Drlg. 230 ft.

Jefferson County

A. T. Campbell No. 1 Trout, SE NE NE sec. 6-8s-7w.
Drlg. 375 ft.

L. C. Heydrick No. 1 O. W. Seay, SE NW NW Sec. 31-6s-5w.
Fishing; T.D. 1,737 ft.

Geo. Pace No. 1 Gardner, SW cor. Sec. 23-5s-5w.
T.D. 600 ft.; S.D.

Sinclair Prairie Oil Co. No. 1 M. H. Barrett, NW cor. sec. 31-5s-6w.
Rig.

Johnston County

Equitable O. & G. Co.'s No. 1 Bellsey, NE SW Sec. 12-2s-4e
Arbuckle lime 1,552 ft.; drlg. 1,938 ft. in lime.

Moore & Wirick's No. 1 Westheimer & Daube, SE NW NE Sec. 19-3s-4e.
T.D. 1,925 ft.; S.D. for orders.

Le Flore County

McCraw et al No. 1 Tidwell, C NW SE sec. 17-3n-22.
T.D. 1,155 ft.; waiting for csg.

Love County

Amerada Pet. Corp.'s No. 1-A Westheimer & Daube, SW SE SW Sec. 27-6s-2e.
Drlg. 4,490 ft. in shale.

Sinclair Prairie Oil Co.'s No. 1 Stockton, SE SE SW Sec. 26-6s-2w.
Drill pipe stuck at 6,832 ft.; T.D. 7,165 ft.; P.B. to 5,432 ft. to sidetrack lost drill pipe; W.O.C.

Marshall County

Norman Smith's No. 1 Chestnut, NE cor Sec. 23-8s-5e.
T.D. 275 ft.; C.O. 175 ft.

W. T. Singley et al No. 1 Halford, SW SE SW SW sec. 10-7s-4e.
Drlg. 275 ft.

W. T. Singley No. 1 Vickers, NW SW NW Sec. 22-7s-4.
T.D. 225 ft.; S.D. for csg.

Pushmataha County

C. W. Whitehead et al's No. 1 Misser, SE SW SW Sec. 35-3s-18e.
S.D. 3,560 ft.

Stephens County

Franklin & Duncan No. 1 Woolsey, NW NW SE Sec. 10-3s-6w (old well deepening).
T.D. 1,050 ft.; shut down.

Clyde Rhodes et al No. 1-A Doak, SW SW SW sec. 1-1s-5w.
R.U. rotary.

Nash et al No. 1 Saddler, SW cor. NW NW SE Sec. 30-2n-4w.
T.D. 180 ft.; waiting for csg.

Tillman County

Gypsy Oil Co.'s No. 1 Schenck, SE NW SE Sec. 31-1s-18w.
T.D. 2,970 ft. in lime; S.D. for rotary tools.

Chas. Walker No. 1 D. M. Gale, NE NE NW sec. 16-1s-19w.
Location.

KANSAS WILDCATS

Week Ending January 18

(Descriptions are East unless marked otherwise)

Barton County

Buchanan & Alexander No. 1 Langfeld, NE NE SW sec. 14-20-11w.
Rigging up.

John Burton No. 1 Wendel, NE cor. sec. 13-19-11w.
Rig.

Hilligoss et al No. 1 Schmidt, NE cor. Sec. 27-19-11w.
Rigging up.

Morgan & Flynn et al No. 1 Amerine, NE cor. sec. 14-19-14w.
Drlg. 850 ft.

Morgan & Flynn et al No. 1 Zimmer, SE SE SW sec. 20-19-14w.
Drlg. 135 ft.

Murphy & Morgan's No. 1 Robinson, NE NE SW Sec. 21-16-14w.
Rigging up.

Torry & Feaster No. 1 Kimpler, SE NE NE Sec. 31-18-11w.
Drlg. 3,210 ft.

Torry & Feaster's No. 1 Feist, NE NE SE Sec. 29-18-11w.
Siliceous lime 3,430-32½ ft., T.D.; Potential; pumped 346 bbls. oil in 18½ hours.

W. E. Witt's No. 1 Murry, NW NW SW Sec. 14-17-14w.
Siliceous lime 3,452 ft.; show of wtr. 3,471 ft.; S.D. 3,477 ft.

Yarnell, Carlson & Spencer No. 1 Bloomer, NE NE NW sec. 36-17-11w.
Drlg. 1,492 ft.

Butler County

National Ref. Co. No. 1 McCullough, NE NE SW sec. 1-28-6.
C.O. 1,718 ft.

Pryor & Lockhart No. 1 Boucher, NW cor. sec. 19-27-4.
C.O. 114 ft.

Clark County

Watchorn O. & G. Co. No. 3 Stevens, C NW NW sec. 21-32-21w.
Viola lime 6,569 ft.; show of oil 6,575-80 ft.; drlg. 6,711 ft.

Cowley County

Aylward & Trees Oil Co. et al No. 1 Shields, SW cor. Sec. 17-32-6.
Drlg. 1,645 ft.

M. Baden No. 1 Houser, NW SW NE sec. 13-30-3.
Cellar.

Penwest Oil Co. No. 1 Clover, NE SE SE sec. 8-31-7.
19,000,000 ft. gas 1,430-60 ft.; drlg. 1,560 ft.

Reed & Milligan No. 1 Houston, NW NW SW Sec. 10-31-4.
S.D. 1,680 ft.

Roth & Farout No. 1 Guthrie, NW cor. Lot 14, Sec. 30-33-3.
Rigging up.

Roth & Faurot's No. 1 Sherwood, NE NW SW sec. 11-31-4.
Drlg. 1,800 ft.

Trees Oil Co. No. 1 Garber, NE NE SW Sec. 28-31-5.
Drlg. 2,440 ft.

Winkler, Koch et al No. 1-B Harlan, C C S½ NW NE Sec. 13-31-7.
Drlg. 2,440 ft.

Dickinson County

Dutch Oil Co.'s No. 1 Phillips. C NE NW Sec. 15-15-1e.
Shut down 2,535 ft.

Ellis County

Lario Oil & Gas et al No. 1 Walter, SE NE SW Sec. 2-12-18w.
Rig.

Ted Kors et al No. 1 Koblitz, SE SW NW sec. 23-12-18w.
Rigging up.

Graham County

Vickers Pet. Co. & Phillips Pet. Co. No. 1 Hutton, 430 ft. from E line and 330 ft. from N line of SE¼ Sec. 29-8-22w.
T.D. 1,375 ft.; 12-in. parted.

Greenwood County

Anderson & McGinnis No. 1 Jensen, SE SE SW sec. 30-23-12.
Drlg. 1,900 ft.

K. C. Dunn No. 1 Dawson, C NW NE sec. 27-26-13.
Drlg. 925 ft.

Mohawk Oil Co.'s No. 1-A Edgar, NE NE SW sec. 2-28-8.
Mississippi lime 2,540 ft.; 200 ft. of oil in hole, 2,541-42 ft.; T.D. 2,548 ft.; 200 ft. of oil in hole in 15 hrs.; swbd. 3 bbls. oil per day.

Sharpless et al No. 1 Cook, NW NW NW sec. 15-24-10.
Spudded and S.D.

Harper County

Marathon Oil Co. No. 1 Zellers, C SW NW Sec. 17-35-8w.
W.O.C. 2,940 ft.

Harvey County

Empire O. & R. Co. et al No. 1 Webster, SE SE SW sec. 8-24-2w.
C.O. 20 ft.

Ok-Tex Oil Co. No. 1 Osborne, C SE SE Sec. 6-23-3w.
Chat 3,605 ft.; corrected; S.D. 3,626 ft.

Western Kansas O. & R. Co. No. 1 Warkentin, C SW SW Sec. 1-23-2w.
Rigging up.

Haskell County

Helmerich & Payne No. 1 Elliott, C SW Sec. 30-29-33w.
T.D. 2,747 ft.; acidized with 1,500 gallons; no test.

Marion County

Milton et al No. 1 Young, NW NW SE sec. 17-21-3.
Location.

Norton County

Helmerich & Payne et al No. 1 Collins, C NE Sec. 11-3-25w.
R.U. rotary.

Lario O. & G. Co. and Elwell No. 1 Kennedy, SW SW NW Sec. 22-3-23w.
Drlg. 2,465 ft.

Pratt County

Lario O. & G. Co., Ewell and Atlantic O P. Co. No. 1 Lemon, SE SE NW Sec. 12-29-12w.
W.O.C. 915 ft.

Skelly Oil Co. et al No. 1 Comm. Gilchrist, C SE¼ Sec. 7-28-11w.
Wilcox 4,340 ft.; Siliceous 4,420 ft.; P.B. to 4,245 ft.; no test.

Reno County

Derby Oil Co. No. 1 Schrock, SE SE SW sec. 27-24-5w.
Simpson 3,348 ft.; H.F.W. 3,378 ft.; S.D.

Foraker et al No. 1 Hiett, SE SW NE Sec. 34-24-4w.
S.D. 1,780 ft.

McPherson Drlg. and Derby Oil Co. No. 1 Scheuchzer, NE SE SW Sec. 17-24-4w
Drlg. 3,157 ft.

Miller et al No. 1 Detter, NE SE NW sec. 26-22-7w.
Moving in machine.

Olson Drlg. Co. et al No. 1 Krantz, NE NE SE Sec. 12-25-5w.
Chat 3,532 ft.; set 8-in. at 3,540 ft.; Siliceous lime 4,112 ft.; drlg. 4,115 ft.

Rose Spring & Foraker No. 1 Brauer, SW SW SE Sec. 4-26-4w.
Drlg. 3,925 ft.

Rice County

Day No. 1 Mason, NW NE NE Sec. 28-21-7w.
Chat 2,388-2,400 ft.; 700 ft. of oil in hole in 5 hrs.; not tested.

Franco-Central et al No. 1 Shonyo, SW SW SE sec. 11-18-10w.
Drlg. 2,069 ft.

Grattan et al No. 1 Williams, SW SW NW sec. 17-18-7w.
Rig.

Permian Oil Co. No. 1 Monroe, C NE NE Sec. 9-20-7w.
S.D. at 1,110 ft.

Permian Oil Co. No. 1 Conner, C NE NE sec 28-19-7w.
K.C. lime 2,890 ft.; chat 2,240-66 ft.; Miesner 3,470 ft.; H.F.W. 3,470-75 ft.; Siliceous 3,620 ft.; drlg. 3,635 ft.

C. E. Skiles et al No. 1 Edwards, NW NW NE Sec. 3-18-8w.
Siliceous 3,278-81 ft. T.D.; 2,500 ft. of oil in hole in 5 hrs.; no test.

Tabor-Coleman and Atlantic O. P. Co. No. 1 Tharp, C NW NW Sec. 22-21-6w
K.C. lime 2,925 ft.; fishing 3,235 ft.

Vernon Oil & Gas and Cusco Oil Co. No. 1 Boldt, NW SW NW Sec. 10-19-10w.
U.R. 8-in. at 2,320 ft.

L. H. Wentz No. 1 Bushong, SW cor. Sec. 20-21-10w.
Siliceous 3,508-20 ft.; T.D.; dry and abd.

W. E. Witt's No. 1 Hall, SE SE NW sec. 3-20-9w.
Spudded and S.D.

Rooks County

F. A. Gillespie & Sons No. 1 Low, NE NE NW Sec. 12-6-18w.
Topeka lime 2,856 ft. (cor.); 125 ft. of oil in hole in 12 hrs. at 3,154-58 ft.; drlg. 3,162 ft.

Murfin et al No. 1 Wasthusin, NE NE SE Sec. 19-8-16w.
Drlg. 550 ft.

Pryor & Lockhart's No. 1 Bradley, SW SW NE sec. 31-10-16w.
S.D. 625 ft.

Rush County

Torrey & Feaster et al No. 1 Winget, SE cor. Sec. 15-16-16w.
Rig.

Russell County

R. G. Berry et al No. 1 Cook, NE NE SE sec. 19-11-13w.
Rig.

Central Petroleum Co.'s No. 1 Benso, SE SE SW sec. 9-14-15w.
C.O. 2,390 ft.

Coraiena Oil Co. No. 1 Disken, SE cor. Sec. 30-15-13w.
Drlg. 2,900 ft.

Eisenhour & Shaffer No. 1 Humes, SW SW SW sec. 6-14-12w.
Rig.

Empire O. & R. et al No. 1 Major, SE cor. Sec. 11-14-12w.
Cellar.

Hartman and Blair No. 1 McAllister, SW SW SE sec. 24-13-15w.
Moving in material.

Hartman and Blair No. 1 Boxberger "B," NE SE SW sec. 5-14-14w.
Rigging up.

Hartman & Blair et al No. 1 Boxberger, NW NW SW Sec. 32-13-14w
Anhydrite 904 ft.; C.O. 915 ft.

Sam Murphy et al's No. 1 Enschutz & Schaffer, SW cor. Sec. 10-15-13w.
Pay 2,465-68 ft.; produced 2 bbls. of oil an hr.; fishing 2,500 ft.

R. C. Tarrant No. 1 Williamson, SE SE NW sec. 9-14-14w.
Drlg. 1,865 ft.

Phillips Pet. Co. and Sinclair Prairie Oil Co. No. 1 Driscoll, NW NW SE Sec. 31-15-11w.
Oswald 3,031-41 ft.; R.U. standard tools.

P. G. Reynolds No. 1 Fredrickson, SE SW SE sec. 6-13-12w.
C.O. 265 ft.

Warren Oil Co. No. 1 Bratton, SE cor. Sec. 25-11-13w.
Drlg. 2,650 ft.

Winkler & Koch No. 1 McAllister, NE NE SE Sec. 9-12-13w.
Rig.

Sedgwick County

T. C. Johnson No. 1 Jansen, SW SW NW sec. 11-28-2.
Location.

Stafford County

L. A. Farris et al No. 1 Snyder, SE SE NW sec. 3-21-11w.
Drlg. 475 ft.

Herndon Drlg. Co. and Atlantic O. P. Co No. 1 Russell, C SE NW sec. 20-21-14w.
Viola lime 3,670 ft.; running 5-in. csg. at 3,690 ft.

Sumner County

Helmerich & Payne No. 1 Wright, SE SE NW Sec. 10-32-2
Show of gas 680-85 ft.; Simpson 3,440 ft.; drlg. 3,459 ft.

D. L. Husted et al No. 1 Evers, SE SE NE sec. 27-31-2.
Drlg. 1,520 ft.

Morgan et al No. 1 Veail, SE SW NE sec. 27-32-2.
Drlg. 1,100 ft.

Orcutt & Stewart's No. 1 Newton, SE cor Sec. 21-30-2.
S.D. 475 ft.

C. Pulse's No. 1 Buss, NW cor Sec. 12-32-2.
K.C. lime 2,590 ft.; drlg. 2,450 ft.

D. J. Wilson et al's No. 1 Ciera, 1,320 ft from W and 25 ft. from S line of NW Sec. 15-35-1w
S.D. at 2,670 ft.

Trego County

Central Commercial's No. 1 Ware, NW NW SE Sec. 17-13-21w
Drlg. 3,441 ft.

Vickers et al's No. 1 Secor, NW NW NW Sec. 25-15-24w
H.F.W. 4,577 ft.; drlg. 4,675 ft.

Woodson County

J. F. Mergen et al No. 1 Vermont Savings Bank, NE NW NE sec. 15-25-14.
Drlg. 850 ft.

Sheedy et al No. 2 Warner, SW SW SW sec. 21-25-14.
Drlg. 1,200 ft.

GULF COAST WILDCATS

Week Ending January 18

Raccoon Bend—Austin County

Humble O. & R. Co. No. 2 Granau. 150 ft. southeasterly from interior cor. in the NW boundary at R/A to most northerly NW line, thence 55 ft. SW at R/A.
10¾-in. csg. 1,054 ft.; T.D. 1,060 ft.; W.O.C.

Humble O. & R. Co. No. 2-B Bracy, 375 ft. NE of SW line and 250 ft. SE of NW line, Wm. C. White Sur.
Swabbed and would not flow; T.D. 3,385 ft.; waiting on pump.

Humble O. & R. Co. No. 3-X Wilson, 346 ft. SW NELL 500 ft. SE from No. 5, Wm. Harvey Survey.
Drlg. shale 2,504 ft.

Humble O. & R. Co. No. 11-X Bellville, 180 ft. NW of SE line of tract, 1,399 ft. NE of SW line of Wm. Smeathers Sur.
T.D. 4,159 ft.; 7-in. csg. 4,074 ft.; swbd.; would not flow; waiting on pump.

Hastings—Brazoria County

Humble O. & R. Co. No. 2 Nelson, 330 ft. W of E line of 40-ac. lease, H.T.&B. Survey, section 36.
T.D. 6,082 ft.; 7-in. csg. 5,860 ft.; I.P. 24.7 bbls. per hr.; ¼-in. choke; T.P. 850 lbs.; C.P. 900 lbs.

Humble O. & R. Co. No. 1 J. F. Bridges, center of N 10 acres of 20-ac. lease, A.C.H.&B. Sur. No. 2.
Location.

Humble O. & R. Co. No. 2 J. F. Bridges, center of S 10 acres of 20-ac. lease, A.C.H.&B. Sur. No. 2.
Location.

Humble O. & R. Co. No. 2 Cannon, 330 ft. S. 330 ft. E of NW cor. of 40-ac. tract, H.T.&B. Sur. No. 36.
Rig up.

Humble O. & R. Co. No. 3 Cannon, 330 ft S of N line, and 330 ft. E of W line of 60-ac. tract, H.T.&B. No. 36.
Rig up.

Stanolind O. & G. Co. No. 1 R. L. Autrey, 240 ft. S, 330 ft. E of interior NE cor. of 207.8-ac. tract, H.T.&B. Sur. No. 37.
Location.

Stanolind O. & G. Co. No. 2 Autrey, 240 ft. S and 330 ft. W of most northerly NE cor. of 207.8-ac. tract, H.T.&B. Sur. No. 37.
Location.

Stanolind O. & G. Co. No. 1 Cannon, 330 ft. N, 330 ft. E of SW cor. of 40-ac. tract, H.T.&B. Sur. No. 36.
T.D. 5,884 ft.; 7-in. csg. at 5,634 ft.; testing.

Stanolind O. & G. Co. No. 2 Cannon, 330 ft. S. 330 ft. E of NW corner of 40-ac. tract. H.T.&B. No. 36.
Rig up.

Stanolind O. & G. Co. No. 3 Guido, 330 ft. S. 330 ft. E of NW cor. of 40-ac. tract. H.T.&B. Sur. No. 36.
Drlg. sand and shale 3,740 ft.

Stanolind Oil & Gas Co. No. 3 Kidd, 1,465 ft. E of W line, 210 ft. S of N line of 58.4-ac. tract, A.C.H.&B. Survey No. 2.
Rig up.

Stanolind O. & G. Co.'s No. 2 Drake, 330 ft. N, 1,650 ft. W from SE cor. of 120 ac. lease. H.T.&B. Sur. No. 36.
Coring shale and sand 5,782 ft.

Manvel—Brazoria County

Jay Simmons No. 1 Wilson, center of Lot 25, H.T.&B. Sur. No. 23.
Location.

Sinclair Prairie Oil Co. No. 1 Michaelson, 330 ft. E of W line and midway of N and S lines, Lot 19, H.T.&B. Sur. No. 24.
Location.

J. W. Sorrells' No. 1 Swift, Blk. 21. Abst. 318, H.N. Little Sur.
Derrick.

Texas Co. No. 2 J. L. Lemmer, S 48 degrees, E 990 ft. and N 42 degrees, E 330 ft. from W corner of 150-ac. lease, T. Sproggins Survey.
Rig up.

Texas Co. No. 13-A Belcher, S 48 deg., E 1,121 ft. and S 42 deg. W. 330 ft. from the N cor. of lease, H. N. Little Sur.
T.D. 4,303 ft.; P.B. 3,730 ft.; 7-in. csg. 3,694 ft.; P.B.; cutting tubing.

Texas Co. No. 18-B Belcher, 1,583 ft. N. 42 deg. E and 956 ft. N. 48 deg. W from S cor. of H. N. Little Sur.
T.D. 5,155 ft.; 7-in. csg. at 5,125 ft.; W.O.C.

Texas Co. No. 20 Houston Oil Field Assn., 330 ft. E and 247 ft. S of NW cor. of Lot 21-A, A.C.H.&B. Sur. No. 91.
Derrick.

Texas Co. No. 2 Dawson, 247 ft. S, 241 ft. W of NE cor. of Lot 58, H.T.&B. Sur. No. 23.
Location.

Anahuac—Chambers County

Gulf Prod. Co. No. 2 Knowles, 200 ft. EW line, 431 ft. NS line of Sec. No. 48.
T.D. 7,076 ft.; 7-in. csg. at 7,031 ft.; I.P. 660 bbls. per day; ¼-in. choke; T.P. 1,025 lbs.; C.P. 1,025 lbs.

Humble O. & R. Co. No. 3 Engels, 466 ft. S of N line, 466 ft. E of W line of H.& T.C. Survey No. 56.
Location.

Humble O. & R. Co. No. 7 Engels, 466 ft. N of S line, 1,009 ft. E of No. 6, H.&T.C. Survey, section 56.
Location.

Humble O. & R. Co. No. 7 Broussard, 1,339 ft. WE line, 466 ft. SN line of H.& T.C. Sur., sec. 63.
T.D. 1,602 ft.; setting 10¾-in. csg.

Humble O. & R. Co. No. 9 Broussard, 466 ft. W of E line, 1,337 ft. S of N line of H.&T.C. Survey No. 63.
Rig up.

Humble Oil & Refg. Co. No. 1 H. A. Gripon, 466 ft. E of W line, 466 ft. S of N line of H.&T.C. Survey, section 51.
Drlg. shale 6,386 ft.

Humble O. & R. Co. No. 2 H. A. Gripon, 466 ft. NS line and 466 ft. WE line of 220-ac. tract, H.&T.C. Sur., sec. 51.
Location.

Humble O. & R. Co.'s No. 8 Clark, 460 ft. WE line, 2,212 ft. NS line of H.T.&C., Sec. 57.
Rig up.

Humble O. & R. Co. No. 2 Tyrell, 1,922 ft. SNL, 1,317 ft. WE line of H.&T.C. Sur., sec. 52.
Location.

Humble O. & R. Co. No. 3 W. C. Tyrell, 466 ft. SN line and 1,317 ft. WE line, sec. 52, H.&T.C. Sur.
Derrick.

Humble O. & R. Co. No. 1 H. E. Marshall, 466 ft. N of S line, 466 ft. E of W line of 160-ac. lease, H.&T.C. Sur., sec. 50.
T.D. 7,082 ft.; top sand 6,908 ft.; 7-in. csg. at 7,041 ft.; W.O.C.

Humble O. & R. Co. No. 2 H. E. Marshall, 466 ft. SN line, 996 ft. EW line of 160-ac. lease, H.&T.C. Sur., sec. 50.
Location.

Humble Oil & Ref. Co. No. 12 Middleton, 466 ft. E of W line, 1,339 ft. N of S line of section 58, H.&T.C. Survey.
Coring sand 7,083 ft.; top sand 7,021 ft.

Humble O. & R. Co. No. 13 Middleton, 873 ft. E of No. 48, 466 ft. N of S line of H.&T.C. Survey, sec. 58.
T.D. 7,085 ft.; 7-in. csg. 7,040 ft.; I.P. 27.4 bbls. per hr.; ¼-in. choke; T.P. 1,050 lbs.; C.P. 1,100 lbs.

Humble O. & R. Co., No. 6 White, 825 ft. N of No. 5, 466 ft. E of W line of lease, J. McGahey Survey.
Rig up.

Humble O. & R. Co. No. 3 Zappe, 859 ft. N of No. 1, 466 ft. W of E line of H.&T.C. Sur., sec. 51.
Location.

Humble O. & R. Co. No. 4 Zappe, 466 ft. SN line, 466 ft. WE line of 320-ac. lease, H.&T.C. Sur., sec. 51.
Location.

Humble O. & R. Co. No. 5 White, 466 ft. EW line, 825 ft. N of No. 4 White, J. McGahey Sur.
T.D. 7,099 ft.; I.P. 12 bbls. per hr.; ¼-in. choke; T.P. 400 lbs.; C.P. no gauge.

Humble O. & R. Co. No. 3-B Broussard, 869 ft. E from No. 2-B, 466 ft. S of N line, Sec. 59, H..&T.C. Sur.
T.D. 7,085 ft.; top sand 6,981 ft.; 7-in. csg. at 7,040 ft.; running tubing.

Humble O. & R. Co. No. 1 G. C. Wilcox, 466 ft. EW line, 466 ft. NS line of 160-ac. lease, H.&T.C. Sur., sec. 50.
Location.

Humble O. & R. Co. No. 2 Broussard, 1,332 ft. E of W line, 2,332 ft. N of S line of Sec. 63, H.&T.C. Sur.
Location

Sun Oil Co. No. 6 White, 933 ft. W of No. 4, 517 ft. SN line of lease, James McGahey Sur.
Drlg. shale and lime 4,951 ft.

Barbers Hill—Chambers County

Sinclair Prairie No. 19 Wilburn, 150 ft. W of No. 18, 50 ft. SN line of lease, Henry Griffith Sur.
T.D. 1,319 ft.; W.O.C.

Sun Oil Co.'s No. 18 Wilburn, 80 ft. N. 75 ft. E of SW cor. of tract, Wm. Hodges Sur.
Drlg. shale and hard shell 4,685 ft.

Stanolind Oil & Gas Co. No. 20 Wilburn, 50 ft. E of W line, 50 ft. S of N line of tract, Wm. Hodge Sur.
Coring sand and shale 4,258 ft.

Stanolind O. & G. Co.'s No. 29 Chambers 224 ft. E of No. 21 W. Bloodgood Sur
Derrick.

Stanolind O. & G. Co.'s No. 31 Chambers 20 ft. S. 50 ft. W of NW cor. of Sur. A lease.
Drlg. hard shale 5,579 ft.

Superior Oil Co. No. 2-B Barber, 150 ft. due E of the NE corner of Barber "C" lease, thence 75 ft. due N.
Spudding.

Texas Gulf Prod. Co. No. 7 Wilburn, 70 ft. W of E line, Wm. Hodge Sur
T.D. 3,031 ft.; sand and lime; cmtd. back to 2,739 ft.; W.O.C.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1 Cooper Heirs, 466 ft. from S and E lines, 140-ac. lease, S. Burney Sur.
Drlg. shale 5,957 ft.

Stanolind O. & G. Co.-State No. 1 Turtle Bay, 466 ft. S and E from SW cor. of Middleton 120-ac. tract.
Location.

Lost Lake—Chambers County

Pure Oil Co. No. 20 Mayes, 360 ft. NE of No. 3, 360 ft. NW of No. 15, E. H. R. Wallace Sur.
Location.

Big Creek—Fort Bend

Gulf Prod. Co.'s No. 66 Davis, 2,760 ft NE along SE line of lease from W corner of Texas Co.'s 300-ac. lease, 1,386 ft. NW at R/A, M. Young Sur.
T.D. 4,235 ft.

Marten Drlg. Co. No. 1 W. C. Moore, 25 ft. S of NW line and 111 ft. SW along NW line from N cor. of Atlantic 25-ac Moore lease, B. Wickerson Sur.
Rig up.

Trans. State Oil Co. No. 2-A Bryan-Wheat, 5,250 ft. NE along SEL of Texas Co. 300-ac. tract, from SW corner, thence 525 ft. SE at R/A M. Young Survey.
Drlg. shale 2,210 ft.

Trans. State Oil Co. No. 3 Ahlers, 130 ft. SW of Moran Corp. No. 1 Ahlers and 124 ft. SE of Jeanae No. 1 Bryan, M. Young Survey.
13-in. csg. at 1,321 ft.; S.D.

Blue Ridge—Fort Bend County

Gulf Prod. Co. No. 19-B Bassett Blakely, 540.5 ft. along W line of NW corner of Lot 5, Block "G" and 306.5 ft. at R/A E. Drew Survey.
Drlg. shale 3,376 ft.

O. M. Wallace No. 1 Blakely, 100 ft. W of E line, 106 ft. N of S line of Lot 6, Block F, E. Drew Survey.
Rig up.

Boling—Fort Bend County

Texas Co. No. 15-A Taylor, 683 ft. SE of No. 11-A, 683 ft. NW of No. 12-A, S. F Austin Sur.

T.D. 3,701 ft.; P.B. to 3,595 ft., 7-in. csg. 3,576 ft.; completed, no gauge.

Orchard—Fort Bend County

Gulf Prod. Co. No. 44 Moore, 500 ft. NW of No. 42, Leo Burknapp Sur.
Drlg. sandy shale 4,499 ft.

Gulf Refg. Co. No. 45 Moore, 1,050 ft. E along S line from SW corner of Survey, 1,149 ft. N at R/A, German Immigration Sur. No. 8.
Drlg. sand and lime 2,841 ft.

Gulf Prod. Co. No. 3-A Moore, 210 ft. E, 1,250 ft. to SE corner tract No. 8, Leo Burknepp Survey.
Drlg. sandy lime 950 ft.

Thompson—Ft. Bend County

Gulf-Humble No. 27-A Booth, 798 ft. W of No. 5-A, 485 ft. S of N line of Booth, 1,107-ac. tract.
Drlg. shale 5,305 ft.

High Island—Galveston County

Stanolind O. & G. Co. No. 1-C Marrs-McLean, 450 ft. S of N line of Lot 5, M. Dunman Sur.
Drlg. sand 4,980 ft.

Stanolind O. & G. Co. No. 5 B.&N.O., 135 ft. S, 150 ft. E of NE cor. of Fitzsimmons Sur.
Drlg. shale and lime 3,835 ft.

Stanolind O. & G. Co. No. 50 Cade, 350 ft. WE line, 950 ft. NS line of 460-ac. tract, N. Fitzsimmons Sur.
Coring shale 6,179 ft.

Stanolind O. & G. Co. No. 51 Cade, 690 ft. SN line, 620 ft. WE line of 460-ac. tract, Fitzsimmons Sur.
Drlg. oil sand 5,780 ft.

Stanolind Oil & Gas Co. No. 18-B Smith Royalty, 44 ft. E and 1,188 ft. S from NE corner of Lot No. 30, Subdivision of Corona, 200-ac. tract in Smith 40-ac. tract, M. Dunman Sur.
Bldg. derrick.

Dickinson—Galveston County

Humble O. & R. Co. No. 1-B San Leon, 381 ft. SE of NW line and 300 ft. SW of NE line of S½ of Blk. 102, A. E. Edwards Sur.
Coring hard shale 8,938 ft.

Humble O. & R. Co. No. 2 Anderson, 352 ft WE line, 777 ft. EW line and 338 ft. NS line, Lot 2, Blk. 16, J. Sellers Sur.
T.D. 8,777 ft.

Humble O. & R. Co. No. 3-B Bayou Dev. Co., 600 ft. EW line of lease, 1,866 ft. due S of No. 1-B, John Sellers Sur.
Derrick.

Humble O. & R. Co. No. 3-B Stewart, 2,954 ft. S along E line from NE cor. and 577.2 ft. W at right angles, J. Sellers Sur.
Coring sandy shale 8,608 ft.

Humble O. & R. Co. No. 4-B Stewart, 584 ft. EW line, 933 ft. due S of No. 3-B, John Sellers Sur.
Location.

Humble O. & R. Co. No. 5-A Stewart, 466 ft. W of E line of Stewart "A" Lease, 5,500 ft. due S of No. 2-A Stewart, John Sellers Sur.
Rig.

Humble O. & R. Co. No. 6-A Maco Stewart, 6,087 ft. S of NE cor., 1,390 ft. W of E line and 1,390 ft. E of W line and 466 ft. N of S line of Stewart.
7-in. csg. 8,974 ft.; T.D. 9,142 ft.; showed salt water; C.P. 2,800 lbs.; pulled and P.B. to 8,775 ft.; perforated 8,608-25 ft.; tested 30 lbs. pressure and 39 thribbles of mud and S.W.; perforating 8,507-14 ft. with 18 holes.

Pure Oil Co. No. 2 J. W. Shelor, 779 ft. N, 182 ft. W of N. I. Shelar, B.B.B. &C. Sur.
T.D. 8,481 ft.; P.B. to 4,790 to 4,700 ft.; cut plug at 4,695 ft.

Stanolind O. & G. Co. No. 2 State, 1,369 ft. E of No. 1 State.
T.D. 9,135 ft.; 7-in. csg. 9,120 ft.; P.B. to 9,050 ft.

Stanolind O. & G. Co. No. 3 State, 683 ft. SE of No. 1, 218 ft. N of S bank of Dickinson Bayou Sur., Tract No. 3.
T.D. 8,132 ft.; 7-in. csg. 8,080 ft.; P.B. and drilled to 8,050 ft.; fishing.

Stanolind O. & G. Co. No. 4 State, 935 ft. S. 11 deg. E. 15 ft. E of Pure Oil Co No. 1 Shelor tract No. 3.
Derrick.

Stanolind O. & G. Co. No. 5 State, 1,347 ft. S. 19 deg. 53 ft. E of Humble No. 1 Townes, Tract 3.
Waiting on derrick.

Batson—Hardin County

Deering et al No. 2 Jordan, 200 ft. WE line and 125 ft. NS line of 15.17-ac. tract, W. Donoho Sur.
Derrick.

John Deering et al No. 3 Cruse, 175 ft. due W and 25 ft. N of No. 2 Cruse, P. H. Green Sur.
T.D. 5,292 ft.; 7-in. csg. 5,226 ft.; flowing 180 bbls. per day; 3/16-in. choke; T.P. 140 lbs.; C.P. 800 lbs.

John Deering et al No. 1 J. W. Whitley, 160 ft. SN line, 240 ft. EW line of 130-ac. tract, W. Donoho Sur.
Drlg. rock at 2,350 ft.

Shell Pet. Corp. No. 2 Jackson, 190 ft. W EL, 395 ft. N of SL of lease, W. Donoho Sur.
T.D. 4,720 ft.; 7-in. csg. 4,702 ft.

Texas Co. No. 2 Christian, 510 ft. S, 460 ft. E of NW cor. of Willis Donoho League.
T.D. 4,980 ft.; P.B. to 4,564 ft.; making squeeze out cmt. job.

Saratoga—Hardin County

Hines Oil Co. No. 3 Caswell, 8,600 ft. N of S line, 1,376 ft. E of W line of B.B.B.&C. R.R. Co. Sur. No. 72.
Drlg. oil sand 5,000 ft.; top sand 4,960 ft.

Rio Bravo Oil Co. No. 145-C, 340 ft. E. 200 ft. N from SW corner of Cotton Tract.
T.D. 1,374 ft.; set screen 1,250-74 ft.; I.P. 70 bbls. per day.

Rio Bravo Oil Co. No. 146-C.
Coring sandy shale showing oil at 1,084 ft.

Pierce Junction—Harris County

J. S. Abercrombie et al No. 7 John Ritter, 525 ft. E of W line, 156 ft. N, 17 deg. 42 ft. W at right angles, James Hamilton Sur.
T.D. 5,663 ft.; P.B. to 4,250 ft.; T.D. 4,878 ft.; I.P. 700 bbls. per day; ¼-in. choke; T.P. 650 lbs.

Rio Bravo Oil Co. No. 4 G.H.&S.A., 320 ft. E, parallel to G.H.&S.A. Railroad track.
Location.

Rio Bravo Oil Co. No. 29-A Settegast, 930 ft. S of N line, 400 ft. W of E line of J. Kopeman Survey.
Drlg. shale and lime 3,623 ft.

Humble—Harris County

Texas Co. No. 50 Stevenson, 835 ft. S and 330 ft. E of NW corner lot 6-B, J.B. Stevenson Survey.
Drlg. shale 2,505 ft.

Mykawa—Harris County

Danciger O. & R. Co. No. 4 Minnetex, 300 ft. WE line, 250 ft. SN line of Lot 192, Wm. Lovett Sur.
T.D. 5,155 ft., made D.S.T. from 4,910-24 ft.; showed 3,000 ft. oil, ¼-in. choke; set screen and showed salt water; P.B. to 4,875 ft.; perforated from 4,832-50 ft.; tested; perforated csg. 4,776-94 ft.; tested 250 ft. of oil and 30 ft. of salt water, I.P. 15 bbls. per hr.; ¼-in. choke; T.P. 950 lbs.

West Prod. Co. No. 7 Irwin, 320 ft. S of No. 6, 403 ft. WE line of lease, W. B. Walker Sur.
Rig up.

South Houston—Harris County

Stanolind O. & G. Co. No. 1 Griffin, 350 ft. E, 150 ft. S of the NW cor. of J. T. Griffin et al, Tract 153, H.T.&B. Sur. No. 36.
16-in. csg. at 93 ft.

Stanolind O. & G. Co. District No. 10 (workover).
Drlg. salt 5,084 ft.

Stanolind O. & G. Co. District No. 19 (workover).
T.D. 4,113 ft.; pulling tubing.

Sterling O. & R. Co. (Diadem) No. 1 Summers, 500 ft. W and 150 ft. N of No. 1 Dean, center of Blk. 138, H.T.&B. Sur. No. 5.
Rig up.

Tomball—Harris County

Humble O. & R. Co. No. 2 Muller, 466 ft. at R/A from S line, 466 ft. at R/A from E line, C. N. Pillott Sur.
10¾-in. csg. at 950 ft.; W.O.C.

Amerada-Stanolind No. 2 Felber, 466 ft. NW line, 466 ft. SW line of 105-ac. lease in E. Smith Sur.
T.D. 5,565 ft.; running 7-in. csg. at 5,563 ft.

Humble Oil & Ref. Co. No. 1 Laird, 306 ft. S of N line, 306 ft. NW of SE line, 510 ft. W of E line, J. Pruitt Survey.
T.D. 5,561 ft.; 7-in. at 5,500 ft.; I.P. 2,061,520 ft. of gas per day; ¼-in. choke; T.P. 1,950 lbs.; C.P. 1,700 lbs.

Humble Oil & Ref. Co. No. 4 Petrich, 1,337 ft. S of N line, 352 ft. W of E line of J. M. Hooper Survey.
T.D. 5,559 ft.; 7-in. at 5,551 ft.; top sand at 5,555 ft.

Humble O. & R. Co. No. 1-B Holderrieth, 388.7 ft. W of most westerly E line of C. N. Pillot Sur.
T.D. 5,573 ft.; 7-in. csg. 5,566 ft.; P.B. and perforated from 5,511-41 ft.; I.P. 2,578,464 ft. of gas per day; ¼-in. choke; T.P. 2,100 lbs.

Shell Pet. Corp. No. 3 Rudel, 466 ft. W of most easterly E line, 420 ft. from the N and S lines of 30-ac. tract, Jesse Pruitt Sur.
T.D. 5,570 ft.; running 7-in. csg.

Sun Oil Co. No. 4 Metzler, 466 ft. E of most westerly W line and 250 ft. N of most northerly S line of lease, C. N. Pillot Sur.
T.D. 5,554 ft.; perforating csg.; 20 shots from 5,546-52 ft.

Texas Co. No. 3 W. B. Scherer, 333 ft. W of E line, 1,799 ft. N of S line of 126-ac. tract of lease, J. House Survey No. 34-A.
Drlg. shale and lime 2,650 ft.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 3-A Pipkin & Davis, 1,430 ft. SW of NE cor. of Pipkin & Davis lease along SE line of same and 50 ft. SE at right angles, William McFaddin Sur.
T.D. 6,698 ft.; milling on csg.

Fannett—Jefferson County

Blue Eagle Oil Co. No. 2 Junker, 225 ft. due S from No. 1 Junker, W. H. Smith Sur.
T.D. 4,353 ft.; 7-in. csg. at 4,330 ft.; W.O.C.

Gulf Prod. Co. No. 6 Junker, 920 ft. W along N line of 240-ac. tract from NE cor. and 580 ft. S at R/A, Wm. Smith Sur.
Drlg. lime rock 5,068 ft.

Cleveland—Liberty County

Gulf Prod. Co. No. 12-C Kirby, 1,234 ft. N, 2,333 ft. E from NE cor. of J. Eldridge Sur.
T.D. 5,743 ft.; cmtd. 7-in. csg.; I.P. 21 bbls. in 18 hrs.; ¼-in. choke.

Gulf Prod. Co. No. 13-C Kirby Lbr. Co., 2,472 ft. N and 3,080 ft. E from NE corner of J. Eldridge Survey in the John Pleasant Survey.
Building road.

Esperson—Liberty County

General Crude Oil Co. No. 1 Halvaty, 467 ft. out of SE cor. of F. M. Gardner Sur.
T.D. 8,809 ft.; cutting drill pipe at 8,461 ft.; fishing.

General Crude Oil Co. No. 13 Davis, 660 ft. N of No. 12 Davis and 330 ft. WEL of lease, D. Kokernot Survey.
Drlg. shale 1,365 ft.

General Crude Oil Co. No. 22 Esperson, 550 ft. N along W line of survey from SE cor. of D. K. Kokernot Sur., thence 1,185 ft. E at right angles.
Drlg. sand and shale 5,746 ft.

General Crude Oil Co. No. 23 Esperson, 1,200 ft. N along W line of Survey from SE corner of Kokernot Sur, thence 330 ft. E at R/A Fisher Sur.
Location.

General Crude Oil Co. No. 24 Esperson, 660 ft. N of No. 23 Esperson, 330 ft. EWL of lease, Wm. Bloodgood Survey.
Location.

Hankamer—Liberty County

Cretaceous Oil Co. No. 4 Exzell, 125 ft. WE line and 132 ft. NS line of 70-ac. tract, Levi Barrow Sur.
T.D. 2,631 ft.; 7-in. csg. at 2,596 ft.

Gulf Prod. Co. No. 1-A R. J. Weiser, 770 ft. W along S line from SE cor. of survey and 422 ft. at R/A, George Stingler Sur.
Drlg. sand 5,246 ft.

Hull—Liberty County

W. B. Flynn No. 8-B Able, 50 ft. S, 300 ft. W of NE cor. of old Humble 10-ac. tract.
S.D. 1,000 ft.; abd.

Houston Oil Co. No. 3 J. C. Baldwin, 225 ft. E of W line, 120 ft. S of N line of 5.74-ac. tract, J. Devore Survey.
Drlg. 450 ft.

Humble O. & R. Co. No. 29 Hooks-Guedry, 850 ft. SN line and 300 ft. WE line of 43-ac. tract ,J. Devore League.
Location.

Bay City—Matagorda County

Skelly Oil Co. No. 1 E. C. Metzger, 466 ft. SN line and 466 ft. EW line of 178.62-ac. tract, M. Cummings Sur.
Building derrick.

Skelly Oil Co. No. 4-B Cobb, 440 ft. NS line and 1,910 ft. EW line of lease, M. Cummings Sur.
Building derrick.

Skelly Oil Co. No. 5-B Cobb, 1,100 ft. NS line and 466 ft. EW line of lease, M. Cummings Sur.
Building derrick.

Markham—Matagorda County

Powers Prod. Co. No. 4 Myers, 225 ft. N of No. 2, 255 ft. EW line of lease, Blk. No. 1, Wm. Haddin Sur.
Location.

Conroe—Montgomery County

Sun Oil Co. No. 10 Keystone Mills.
Derrick.

Sun Oil Co. No. 19 Keystone Mills.
T.D. 5,075 ft.; drlg. plugs.

West Production Co. No. 3 Foster, T.&N.O. R.R. Co. Survey, sec. 3.
Drlg. shale 6,987 ft.

West Prod. Co. No. 4 Foster Lbr. Co., 466 ft. N and W of SE cor. of T.&N.O. Sur., sec. No. 3.
Location.

Port Neches—Orange County

Texas Co.'s No. 6-B Polk, 1,491.5 ft. S, 934.5 ft. W from most northern NE corner of lease J. Beaumont Survey.
Rig up.

Livingston—Polk County

Hawkeye Pet. Co. No. 2 Howard, 466 ft. out of NW cor. of 75-ac. tract, A. Viesca Sur.
T.D. 4,230 ft.; running 7-in. csg.

Humble O. & R. Co. No. 22 Granbury and Smith, 933 ft. SE of No. 16 and 466 ft. from NE line of Blk. 11, A. Viesca Sur.
Top sand 4,203 ft.; T.D. 4,238 ft., 7-in. csg. 4,223 ft.; I.P. 307 bbls. per day; ¼-in. choke; T.P. 550 lbs.; C.P. 1,100 lbs.

Humble O. & R. Co. No. 24 Granbury and Smith, 933 ft. SE of No. 21 and 933 ft. SW of No. 1, A. Viesca Sur.
Drlg. shale 2,145 ft.; 10¾-in. csg. 570 ft.

Ownby-Shell Pet. Corp. No. 7 Pratt, 466 ft. E of W line of lease, 933 ft. S of No. 5 Pratt, A. Viesca Survey.
Drlg. shale 3,439 ft.

Smith and McDannald No. 1 R. H. Jones, 660 ft. SE of No. 1 and 466 ft. WE of lease, A. Viesca Sur.
Location.

Greta—Refugio County

Hewitt and Daugherty No. 21 Lambert, 466 ft. N line, 513 ft. E line, Blk. 32, C. Hardwick Sur.
Location.

United Prod. Co. No. 22 Lambert, 506 ft. from E line, 466 ft. from N line, Block 22, Hardwick Survey.
Coring 6,190 ft.

United Gas Co. No. 23 Lambert, 466 ft. N line, 506 ft. E line, Tract 21, C. A. Hardwick Sur.
Location.

United Prod. Co. No. 17 Fox, 1,575 ft. NW of No. 1, 1,930 ft. from S line of 182-ac. tract, Hews and Brown Survey.
T.D. 5,891 ft.; 7-in. csg. 5,885 ft.; drlg. plug.

Refugio—Refugio County

Humble Oil & Ref. Co. No. 13 Fannie Heard, 486 ft. from N line, 326 ft. from W line of 277.1-ac. tract, Ximines Sur.
T.D. 5,920 ft.; 7-in. csg. 5,910 ft.; I.P. 32 bbls. per hr.; ⅝-in. choke.

Tomoconnor—Refugio County

Quintana Oil Co. No. 28-A O'Connor, 2,250 ft. from SE line, 500 ft. from SW line, Swisher Survey.
T.D. 5,880 ft.; testing.

Quintana Oil Co. No. 29-A O'Connor, 1,200 ft. from NE line, 3,175 ft. from SE line of Swisher Survey.
T.D. 5,868 ft.; drlg. plug.

Quintana Oil Co. No. 36-A O'Connor, 2,325 ft. SEL, 2,130 ft. NEL, Swisher Sur.
Derrick.

Quintana Pet. Co. No. 31-A O'Connor, 2,330 ft. SE line, 1,200 ft. from NE line, Swisher Sur.
Location.

Placedo—Victoria County

American Liberty-Felmont No. 2 Gray, 660 ft. SW from No. 1 and center of NW and SE lines of tract, J. M. Bronson Sur.
Drlg. shale 3,330 ft.

Barnsdall Oil Co. No. 2 W. R. Smith, 1,365 ft. from NE line, 823 ft. from SE line, Lot 7, A. Murray Survey.
Drlg. oil sand 4,791 ft.

Barnsdall Oil Co.-Costa Oil Co. No. 1 Wright, 330 ft. each way out of N cor. of 49.62-ac. tract, S.A.&M.G. Survey No. 8.
T.D. 4,817 ft.; 40-min. D.S. test showed wash wtr. and oil; set screen and swbng.

Barnsdall Oil Co. No. 2 J. M. Pickering et al, 330 ft. from R.R., 613 ft. from No. 2, offset to Smith & Gulf No. 1 Boehm, S.A.&M.G. Sur. No. 5.
Rig up.

Barnsdall-Felmont Oil Co. No. 1 Pickering and Roos, 330 ft. NE, 530 ft. SE of No. 3, S.A.&M.G. Sur. No. 5.
Tested 3,400 ft. of oil on drill stem test from 5,943-53 ft.; failed to flow; swbng.

Eastern Texas Prod. Co. No. 1 Krappa, 330 ft. out of S cor. of 40-ac. tract, Lot 12, Wm. Rupley Sur.
T.D. 5,590 ft. in oil sand; making D.S. test.

C. F. McGrew No. 1 Hadley, center of 20-ac. lot, S.A.&M.G. Sur., Sec. 9, Blk. 49, Lots 1 and 2.
Location.

National Pet. Corp. No. 1 J. Stehle, 330 ft. out of E cor. of 156.8-ac. tract, Piedras Gellardo Sur.
Rig up.

Superior O. & G. Co. No. 1 Henderson and Pickering, 330 ft. out of S cor. of Lot 93, of 29.2-ac. tract, S.A.&M.G. Sur. No. 8.
Moving in.

Westgate Oil Co. No. 1-A Henderson and Pickering, 700 ft. NE, 320 ft. SE of Lot 125, S.A.&M.G. Sur., Wm. Rupley Sur.
T.D. 4,772 ft.; 7-in. csg. 4,754 ft.; failed to flow; R.U. to pump.

Westgate Oil Co. No. 1 Cortez, center of 4.09-ac. tract, S.A.&M.G. Survey No. 8.
T.D. 4,770 ft. in oil sand; 7-in. csg. at 4,756 ft.; setting screen.

Westgate Oil Co. No. 2 Mieska, 330 ft. out of E corner of 60-acre tract, S.A.& M.G. Survey No. 8, A-382.
Rig up.

Clay Creek—Washington County

Joe Pomykal No. 2 Klatte (O.W.D.D.).
Drlg. shale 2,230 ft.

Sun Oil Co. No. 2 Farmer, 150 ft. from SE line of 106.93-ac. tract, J. F. Perry Sur.
T.D. 1,684 ft.; completed; no gauge.

Sun Oil Co. No. 6 J. W. Hunt, 200 ft. SW of WE line and 900 ft. SE of NW line of tract, J. F. Perry Sur.
Rig up.

Louise—Wharton County

Pure Oil Co. No. 1 Jones, 466 ft. NW, 466 ft. SW of E corner of 128-ac. tract, Morris & Cummins Survey No. 19.
10¾-in. csg. at 1,219 ft.

Pure Oil Co. No. 2 Wilder, 500 ft. SE from NW cor., 500 ft. NE from SW line of 160-ac. tract, T. W. Hurd Sur., Sec. 28.
T.D. 5,155 ft.; preparing to run 7-in. csg.

Pickett Ridge—Wharton County

Texas Co. No. 8-A Pierce, 9 deg. 18 ft. E, 1,000 ft. from No. 7-A, N, 22 deg. W, 150 ft. S of No. 3-A, L&G.N. Sur. No. 39.
T.D. 4,710 ft.; 7-in. csg. at 4,700 ft.

Texas Co. No. 9-A Pierce, N. 22 degrees, W 1,502.5 ft. and S 58 degrees, W 175 ft. from No. 2-A, L&G.N. Survey.
Drlg. shale at 3,855 ft.

Withers—Wharton County

Texas Co. No. 2-C Pierce, 17,997 ft. N. 62 degrees E and 2,467 ft. N, 28 degrees W from SW corner of Pierce Estate, John Cardwell Survey.
Rig up.

SOUTH LOUISIANA FIELDS

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 11 Bay St. Elaine, 5,098 ft. S and 4,820 ft. E of NW corner of Section 17-22s-15e.
Drlg. shale 3,503 ft.; set 13-in. csg. at 1,824 ft.

Bayou Mallet—Acadia Parish

Superior Oil & Prod. Co. et al No. 1 M. Savoy, 400 ft. N, 280 ft. E of SW cor. of 28.9-ac. tract, being the part of a 93.5-ac. tract, sec. 47-7s-1e.
Building derrick.

Black Bayou—Cameron Parish

Shell Pet. Corp. No. 26 Watkins, 2,380 ft. W, 100 ft. S of NE cor. of Sec. 18-12s-12w.
Location.

Shell Petroleum Co.'s No. 30 Watkins, 2,250 ft. W, 920 ft. S of NE cor. of Sec. 18-12s-17w.
T.D. 4,423 ft.; P.B. to 4,265 ft.

Shell Pet. Corp. No. 31 Watkins, 410 ft. N, 3,475 ft. E of SW cor. of sec. 8-12s-17w.
Rig up.

Chenoyville—Rapides Parish

Amerada Pet. Corp. No. 2 Weil, 495 ft. out of the NW cor. of Tract 2, Sec. 52-1s-3e.
T.D. 5,715 ft.; oil sand; will set 7-in. csg.

Texas Co. No. 1 Weil, 495 ft. W, 550 ft. N of No. 1 Weil, sec. 52-1s-2e.
Derrick.

Caillou Island—Terrebonne Parish

Texas Co. No. 26 State, 172 ft. from S line, 1,796 ft. from W line, sec. 17-23s-20e.
T.D. 4,693 ft.; P.B. and sidetracked at 2,368 ft.; drlg. 3,836 ft.; in new hole.

Tepetate—Acadia Parish

Continental Oil Co. No. 1 C. O. Ardoin, C of 20-ac. tract in sec. 28-7s-2w.
Derrick.

Continental Oil Co. No. 1 Johnson, 660 ft. W, 330 ft. N of SE cor. of NE¼ of irregular sec. 30-7s-2w.
Location.

Continental Oil Co. No. 1 D. J. Miller, C of 20-ac. tract, being W½ of NE¼ of SW¼ of sec. 28-7s-2w.
16-in. csg. 265 ft.; T.D. 292 ft.; W.O.C.

Continental Oil Co. No. 1 Miller, C of N½ of SE¼ of SE¼ of sec. 29-7s-2w.
Derrick.

Continental Oil Co. No. 1 P. W. Miller, 990 ft. N, 660 ft. W of NE cor. of SW¼ of sec. 28-7s-2w.
Location.

Darrow—Ascension Parish

Humble O. & R. Co. No. 5 Gumble, 964 ft. NE from S cor. of section at R/A to SW line of Sec. 33-10s-2e.
Coring shale 6,744 ft.

Humble O. & R. Co. No. 4 Community, 4,825 ft. from NE cor., 283 ft. S of N line at R/A in sec. 33-10s-2e.
Derrick.

Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 4 School Land, Sec. 16-14s-12w.
Derrick.

Burton Sutton Oil Co. No. 12 School Land, sec. 16-14s-12w.
Derrick.

Magnolia Pet. Co. No. 15 Cameron Meadows, 650 ft. S of N line of Sec. 21, 500 ft. SE of No. 9, Sec. 21-14s-12w.
T.D. 5,262 ft.; top oil sand at 5,254 ft.; 7-in. csg. at 5,242 ft.; started making water, was killed to reset screen.

Choctaw Dome—Iberville Parish

Standard Oil Co.'s No. 8 Myrtle Grove Wilburt, 500 ft. N, 725 ft. W of SE cor. of SW¼ of Sec. 52-9s-11e.
Drlg. sandy shale 4,218 ft.

Standard Oil Co.'s No. 6 Gay, 400 ft. N, 50 ft. W of No. 5, Sec. 52-9s-11e.
Comp. canal.

Four Isle—Terrebonne Parish

Texas Co.'s No. 5 State, 885 ft. S, 2,327 ft. E of NW cor. of Sec. 24-21s-16e.
Location.

Garden Island Bay—Plaquemines Parish

Texas Co. No. 17 State, 1,970 ft. N, 1,648 ft. E of SW cor. of Sec. 37-22s-32e.
S.D. 5,527 ft.; topped salt at 5,510 ft.; P.B. to 4,967 ft.; W.O.C.

Texas Co. No. 18 State, 1,268 ft. N, 2,318 ft. E of SW cor. of Sec. 37-22s-32e.
Preparing to spud.

Gillis—Calcasieu Parish

Pohs Oil Co. No. 9 Castle, 517 ft. S and 330 ft. E of No. 3, Sec. 13-9s-8w.
Drlg. shale 6,447 ft.

Pohs Oil Co. No. 2 Wasey, sec. 14-9s-8w.
T.D. 7,075 ft.; 7-in. csg. at 7,025 ft.; I.P. 720 bbls. per day; ¼-in. choke; T.P. 1,000 lbs.; C.P. 600 lbs.

Texas Co. No. 8 Nickerson fee, 647 ft. N, 290 ft. W of SE cor. of NW¼ of sec. 12-9s-8w.
Digging canal.

Union Sulphur Co. No. 5 Mayo-Reeves, 810 ft. E and 447 ft. N of SW corner of NW¼ Sec. 19-9s-6w.
T.D. 6,743 ft.; 7-in. csg. 6,732 ft.; W.O.C.

Union Sulphur Co. No. 5 Castle, 426.6 ft. E, 574.3 ft. N of SW cor. of SE¼ of NE¼ of sec. 14-9s-8w.
Drlg. sandy shale 5,050 ft.

Union Sulphur Co. No. 6 Castle, 336 ft. S, 2,510 ft. W of NE cor. of sec. 13-9s-8w.
12-in. csg. 1,402 ft.; W.O.C.

Union Sulphur Co. No. 10 State, 2,376 ft. N, 217 ft. E, of SW cor. of sec. 12-9s-8w.
Location.

Union Sulphur Co. No. 15 State, 225 ft. S, 164 ft. W of NE corner of NW corner of NW¼ of Sec. 12-9s-8w.
Location.

Union Sulphur Co. No. 16 State, 1,100 ft. N, 1,443 ft. W of SE corner of NW¼ of Sec. 11-9s-8w.
Location.

Union Sulphur Co. No. 17 State, 341 ft. N and 659 ft. E of SE corner of NW¼ of NW¼ of Sec. 12-9s-8w.
Drlg. shale 640 ft.

Union Sulphur Co. No. 18 State, 3,222 ft. S, 10 ft. E of NW¼ of NW¼ of sec. 12-9s-8w.
Location.

Union Sulphur Co.'s No. 13 State, 1,464 ft. E, 2,088 ft. N of SW cor. of Sec. 13-9s-8w.
Rigging up.

Union Sulphur Co. No. 14 State, 1,462 ft. N, 69 ft. W of SE cor. NE¼ of Sec. 11-9s-8w.
T.D. 6,766 ft.; P.B. to 6,721-23 ft.; testing; showing gas.

Gueydan—Vermilion Parish

Pure Oil Co.'s No. 6 Alliance Trust, 667 ft. E, 1,787 ft. S line of lease, Sec. 34-11s-1w.
T.D. 9,545 ft.; sidetracking 6,593 ft.

Hackberry—Cameron Parish

Browning Oil Co.'s No. 1 Ellender, Sec. 27-12s-10w.
T.D. 3,356 ft.; 6⅝-in. csg. at 3,340 ft.; cut and pulled csg.; S.D.

Calcasieu Oil Co. No. 6 Hansen, 596 ft. S, 2,313 ft. W of NE corner of sec. 14-12s-10w.
Location.

Gulf Ref. Co. No. 20 Irwin, 1,605 ft. W, 1,235 ft. N of SE cor. of sec. 12-12s-10w.
Drlg. sand 5,060 ft.

Stanolind Oil & Gas Co. No. 11-B, Gulf Land, 3,665.6 ft. S, 1,590 ft. W of NE corner of W½ of sec. 14-12s-10w.
Rig up.

Stanolind Oil & Gas Co. No. 12-B Gulf Land, 400 ft. N, 1,030 ft. W of SE corner of NW¼ of sec. 14-12s-10w.
Derrick.

Texas Co. No. 11 State, 961 ft. E, 152 ft. N of NE cor. of sec. 13-12s-9w (workover).
T.D. 6,602 ft.; 5-in. csg. 6,523 ft.; shut down.

Texas Co. No. 18 State, N 13 deg. 20 ft. W, 4,000 ft. from No. 13, Sec. 44-12s-9w.
Cored to 6,787 ft.; now making D.S. test.

Iowa—Jefferson Davis Parish

Shell Pet. Corp. No. 19 Heyd, 1,200 ft. S, 99 ft. W of NE cor. of NW¼ of Sec. 12-9s-7w.
Coring 7,073 ft.

New Iberia—Iberia Parish

Harrison & Abercrombie No. 4 Schwing, Sec. 56-12s-7e.
Top salt 7,194 ft.; T.D. 7,200 ft.; P.B. to 6,295 ft.; W.O.C.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 2 Roane, 825 ft. S of No. 1, 527 ft. N and 557 ft. E of SW cor. of sec. 40-13s-9e.
Derrick.

Herton Oil Co. No. 1 Banita, 960 ft. W of No. 2 Roane, 657 ft. N, 990 ft. W of No. 2 and 395 ft. W of SW cor. of sec. 40-13s-9e.
Location.

Jennings—Acadia Parish

Abshire Bolyard No. 4 Jules Clement, 378 ft. E, 86 ft. N of SW cor. of Sec. 41-9s-2w.
Drlg. shale 2,042 ft.

Shell Pet. Corp. No. 1 Conover-Community, 3,124 ft. E and 215 ft. S of NW cor. sec. 40-9s-2w.
Location.

Yount Lee Oil Co. No. 15 Houssiere-Latriele.
7-in. csg. 7,268 ft.; coring sandy shale 7,311 ft.

Lafitte—Jefferson Parish

Texas Co. No. 2 Rigolettes, sec. 20-17s-24e.
Ready for rig.

Texas Co. No. 3 Lafitte, Sec. 19-17s-24e.
T.D. 7,220 ft.; P.B. and sidetracked at 3,271 ft.; shale 3,320 ft.; no report.

Texas Co. No. 2 Rigolet Co-operative Co., 467 ft. S, 1,194 ft. W of NE cor. Sec. 20-19s-24e.
Drlg. sand and lime 9,138 ft.

Lake Hermitage—Plaquemines Parish

Gulf Ref. Co. No. 4 LaFourche Basin Levee Board, 500 ft. N of No. 2, sec. 15-18s-25e.
Drlg. sandy lime 1,222 ft.

Lake Barre—Terrebonne Parish

Texas Co. No. 33 Lake Barre.
Drlg. shale 2,588 ft.

Texas Co. No. 37 State, sec. 20-12s-20e.
Driving piling.

Lake Pelto—Terrebonne Parish

Texas Co.'s No. 14 State, Sec. 5-23s-18e
T.D. 7,245 ft.; P.B. and sidetracked; shale 5,327 ft.; no report.

Leesville—LaFourche Parish

Gulf Ref. Co. No. 7 Alien Lands, 660 ft. N of S line and 200 ft. W of No. 1, sec. 26-21s-22e.
T.D. 3,629 ft.; I.P. 120 bbls. per day; various chokes.

Texas Co. No. 25 Leesville.
Drlg. wtr. sand 4,192 ft.

Texas Co. No. 23 Leesville, 975 ft. S, 1,975 ft. W of NW cor. of SW¼ Sec. 26-21-22.
Derrick.

Roanoke—Jefferson Davis Parish

Glassell and Gulf Prod. Co. No. 1 T. A. Anding, 217 ft. N and 275 ft. W of SE cor. of sec. 2-9s-4w.
Derrick.

Shell Pet. Corp. No. 2 Carter, 330 ft. E and 187 ft. N of SW cor. of sec. 1-9s-4w.
Drlg. shale 7,241 ft.

Humble O. & R. Co. No. 5 Kratzer, 660 ft. EW line, 1,980 ft. SN line of 120-ac. lease, Sec. 11-9s-4w.
Coring sand and lime 8,101 ft.

Humble O. & R. Co. No. 3-B De Vilbiss, 470 ft. N of S line, 1,500 ft. W of E line of S½ of sec. 11-9s-4e.
Location.

Port Barre—St. Landry Parish

Pacheon Oil Co. No. 1 Gauden, Sec. 4-6s-6e.
T.D. 3,337 ft.; S.D.

Pan American Prod. Co. No. 1 Cormier, 1,350 ft. W, 437 ft. N of SE cor. of tract.
Drlg. shale 4,880 ft.

St. Martinville—St. Martin Parish

Coastal Oil Co. No. 1 A. O. Ladeaux, in center of tract and 286 ft. E of W line of sec. 5n-11s-6e.
S.D. 5,694 ft.

Coastal Plains Oil Corp. No. 1 A. L. Domengeaux, 330 ft. from W line, 120.5 ft. from N and S lines of 50-ac. Arpent tract, Sec. 57-11s-6e.
S.D. 5,841 ft.

Tide Water Oil Co. No. 3 Smedes, 660 ft. S, 660 ft. W of NW cor. of Smedes tract, Sec. 57-11s-6e.
Drlg. sand 7,451 ft.

Sweet Lake—Calcasieu Parish

Pure Oil Co. No. 13 Yount Lee, 800 ft. S, 66 deg. 42 ft. E of No. 12, Sec. 13-13-13.
T.D. 7,701 ft.; set 1,275 ft. of 8⅝-in. csg. and 6,439 ft. of 6⅝-in. csg. at 7,701 ft.; temporarily S.D.

Sulphur—Calcasieu Parish

Union Sulphur Co.'s No. 815 fee, Sec. 29-9s-10w.
T.D. 3,336 ft.; I.P. 1,667 bbls. per day; ½-in. choke; T.P. 435 lbs.

Union Sulphur Co. No. 818 fee, 29.6 ft. N, 561 ft. W of C of Sec. 29-9s-10w.
T.D. 3,809 ft.; I.P. 580 bbls. per day; ¾-in. choke; T.P. 485 lbs.

Union Sulphur Co. No. 819 fee, 2,525 ft. N and 595 ft. E of center tract, sec. 29-9s-10w.
Location.

Union Sulphur Co. No. 820 fee, 2,936 ft. N and 317 ft. W, center of sec. 29-9s-10w.
Location.

Starks—Calcasieu Parish

Gulf Prod. Co.'s No. 38 Lutcher Moore, Sec. 15-19s-12w.
T.D. 3,947 ft.; P.B.; T.D. 3,645 ft.; I.P. 98 bbls. per day through ¼-in. choke.

L. R. Welhite No. 1 Industrial Lbr. Co., 675 ft. W and 100 ft. S of NE cor. of NE¼ of SE¼ of sec. 19-9s-12w.
Drlg. 300 ft.

White Castle—Iberville Parish

Shell Pet. Corp.'s No. 2 Shingle, 250 ft. S, 275 ft. E of NW cor. of Shingle lease.
T.D. 5,313 ft.; salt; P.B. and sidetracked; drlg. shale 2,998 ft.
Salt 5,461 ft.; standing.

Vinton—Calcasieu Parish

Wilson Broach Oil Co. No. 17 Strip, 650 ft. N, 501 ft. W of SE cor. of NE¼ sec. 33-10s-12w.
Location.

Shell Pet. Corp. No. 10 Wilbert, 3,205 ft. N, 28 deg. 54 min. E, and 1,085 ft. N, 60 deg. 30 min. W of sec. 1-11s-12e.
Location.

Miscellaneous Wildcats

TEXAS

Brazoria County

Gulf Prod. Co. No. 1 J. E. Fairfield, 1,700 ft. WEL and 660 ft. SNL of 100-acre lease, being W½ of 200-acre tract, 4,500 ft. due N of No. 1 Wilkes & Smith, A. Robinson Survey.
Rigging up.

R. R. Osborne's No. 1 John L. Jones, 330 ft. each way out of N cor. of S½ of Lot 7, Blk. 1, J. C. Smith Sur.
S.D. 20 ft.

Texas Co. No. 2 Freeport Sulphur Co., Conception Areola Sur.
T.D. 4,915 ft.; made electrical coring test; preparing to run 9⅝-in. csg.

Burleson County

Red Bank Oil Co. No. 1 Q. B. Crain, 330 ft. from N and W lines of 140-ac. tract and W. C. Pierce Sur.
Drlg. sand and shale 2,397 ft.

Chambers County

Black Gold Oil Co.'s No. 1 Borrow, 6,433 ft. NW of the SE line, 3,080 ft. SW of NE line, Ruben Borrow Sur.
Washing to bottom; prepare to D.D.

Salt Dome Oil Co. No. 2 Lawrence, 466 ft. N of N line of Mrs. Julia H. Casey 532.05-ac. tract and 466 ft. W of most westerly E line of A. B. Lawrence 333.05-ac. tract, Solomon Barrow Sur.
Location.

South Gulf Oil Co. No. 1 J. T. White, 1,653 ft. from E line, 466 ft. from S line of 1,476-ac. tract, James McGahey Sur.
Location.

Calhoun County

Continental Oil Co. No. 2-A American Realty Co., 150 ft. NE of No. 2, Pedro Garcia Sur., Lot 1, Blk. "C."
Drlg. shale 6,910 ft.

Humble O. & R. Co.'s No. 1 Mrs. Eliza Welder, 5,685 ft. S, 55 deg. W from a part of intersection of St. L.B.&W. R.R. Sur. and NW line of Jose Maria Rios Sur., 7,210 ft. S, 35 deg. E at R/A Gardner Smith Sur.
T.D. 5,225 ft.; P.B. to 2,200 ft.

Colorado County

Coyle & Concord's No. 1 fee, 550 ft. from N line, 1,950 ft. from E line of Sec. 45, I.&G.N. Sur.
T.D. 6,120 ft.; flowed wash wtr. and oil with 500 lbs. csg. pressure then went dead; pulling screen to rework.

Galveston County

Sun Oil Co.'s No. 1 J. D. Hughes, 1,666.9 ft. NW line, 1,212 ft. NE line of W. M. C. Baker Sur.
Drlg. shale and lime 7,151 ft.

Grimes County

Dr. Marshall et al's No. 1-B Todd, 300 ft. from E line and 175 ft. from N line of 150-ac. tract in extreme NW cor. of county (25 ft. N of No. 1).
T.D. 3,836 ft.; P.B. to 3,815 ft.; well flowing brackish water with small amount of gas through ¼-in. choke; S.D.

Harris County

Cockburn Oil Co.-Shell Pet. Corp. No. 1 Tomkins, 9,375 ft. SN line and 5,350 ft. W line of survey, 1,100 ft. N of Burnett Bay, N. Lynch Sur., Abst. No. 44.
Building road.

A. C. Hill's No. 1-A Swilley 5,424 varas E of W line and 1,960 varas N of S line of Sur.-C. Victor Blanco Sur.
Drlg. shale and lime 5,369 ft.

A. C. Hill No. 1-B Swilley, 6,141 varas E of W line, 1,960 varas N of S line of Sur., center of 200-ac. lease, 365 varas S of N line and 773 varas W of E line of lease, Victor Blanco Sur.
T.D. 7,541 ft.

Texas Gulf Prod. and Bunte O. & G. Co. No. 1 West Moreland Dev. Co., 225 ft. W, 450 ft. S of SW cor. of J. C. McKenzie Sur., J. B. Pier Sur.
Drlg. sand and shells 4,188 ft.

E. E. Young, tr. No. 2 P. S. Griffith, 2,474 ft. S of N line, 2,030 ft. E of W line of A. R. Bodman Sur.
S.D. 4,485 ft.; waiting on csg.

Hardin County

Frank Beaudoin et al No. 1 Walton, A. L. Lancaster Sur.
S.D. 1,900 ft.

Republic Prod.-Houston Oil Co. No. 1 A. A. Burrell, 330 ft. NS line, 1,750 ft. WE line of A. A. Burrell Sur. No. 5-A.
Drlg. shale 3,440 ft.

Jackson County

L. A. Douglas' No. 1 I. N. Mitchel, 750 ft. W, 150 ft. N from NW cor. of A. F. Mitchell 100-ac. tract, Lolita area, S. F. Austin Sur.
Drlg. shale 5,420 ft.

Jefferson County

Glenn McCarthy, Inc., No. 1 C. W. Howth, 2,330 ft.; 466 ft. SN line of survey, T.&N.O. Sur., sec. 10.
Drlg. shale and sand 7,001 ft.

Humble Oil & Refg. Co. No. 1 Mrs. M. E. Langham, 466 ft. E of W line, 580 ft. N of S line of lease, C. Williams Sur. No. A-59.
Drlg. shale and lime 5,290 ft.

Smith and McDannald No. 1 Grinnell Texas, 330 ft. EW line and 660 ft. SN line of Blk. 8, H.&T.C. Sur., Bishop Subd., Grigsby Sur.
Location.

Sun Oil Co. No. 1 Herbert & Broussard, 6,890 ft. NW along SW line and 660 ft. NE at R/A to SW line, B. Blackman Sur., Abst. No. 2.
Drlg. sand 8,739 ft.; showing gas.

Tatum and Pendergrass No. 1 B. W. Owens, 160 ft. E of W line and 225 ft. S of N line of Lot No. 3, Blk. 9, Range 9, Port Arthur Land Co. Subd., Joseph Grigsley Sur.
Drlg. shale 2,110 ft.

Matagorda County

Continental Oil Co. No. 1 Feife, J. S. Criswell Sur., 3,000 ft. E of W line, 2,800 ft. N of S line of survey.
T.D. 7,620 ft.; fishing.

John Deering No. 1 R. A. Estelle, 3,000 ft. SE, 200 ft. NE from W cor. of 480-ac. tract in Tone and Jameson Sur.
Drlg. shale and lime 6,045 ft.

Hammon Exploration Co. No. 1 Cleveland, 330 ft. NS line and WE line of 68-ac. tract, E. Hall Sur.
Coring sandy shale 8,504 ft.

Helmerich & Payne No. 1 Hawkins, 850 ft. S, 70 deg. W of Cockburn Oil Co. No. 6 Hawkins.
T.D. 7,555 ft.

Sterling O. & R. Co. No. 1 Baer estate, 1,274 ft. SW of S cor. of Van Dorn and Bales Sur., 400 ft. NW at right angles in Samuel Hart Sur.
S.D. 6,010 ft.

Sun Oil Co. No. 1 Craig, 1,546.9 ft. SW from N cor. along NW line of lease and survey, thence 157.2 ft. SE at right angles in Thomas Williams Sur.
Drlg. shale and lime 4,211 ft.

Montgomery County

W. C. Battaile's No. 1 Caswell, 2,490 ft. from E line, 150 ft. from S line of survey, David Davis Sur.
S.D. 350 ft.

Chapman and Smith No. 1 Delta Land & Timber Co., 6,388 ft. S and 4,444 ft. E of NW cor. of T. Sheppard Sur. No. A-488.
Derrick.

Jack Frazier No. 1 Maxey, 330 ft. S, 330 ft. E of NW cor. of 500-ac. tract of James Brown Sur.
Derrick.

Seabreeze & Smith No. 1 Delta Land & Timber Co., 330 ft. from most westerly SW cor. of Thomas Shepperd Sur.
Moving in rig.

W. M. S. Thomson's No. 1 Scott, 1,191 ft. SN line, 483 ft. WE line, 1,623 ft. EW line of the P. A. B. Wheeler Sur.
T.D. 3,674 ft.; P.B. to 2,486 ft.; tested fresh water on drill stem test from 2,485-2,500 ft.; S.D.

Orange County

Blue Line Oil Co.'s No. 1 J. E. Peet Richard, 900 ft. W of E line and 150 ft. S of N line of most easterly NE cor. of 138-ac. tract. Ballou Sur.
T.D. 2,544 ft., reaming.

Polk County

O. C. Davis et al No. 1 Knox, 1,450 ft. W and 1,920 ft. S of the NE cor. of survey, F. Chairs Sur.
Rig up.

J. P. Lightfoot et al No. 1 Lynch Davidson, 2,503 ft. SN line of survey and 2,719 ft. W of W line of George Allbritton Sur., or 2,503 ft. SN line and 2,719 ft. WE line of 1,166-ac. tract, Houston County School Land Sur., Abst. No. 270.
Derrick.

Refugio County

Cecil Hagen et al's No. 1 Edith Clarkson 1,734 ft. from N line, 3,320 ft. from E line of J. Coughlin Sur.
Location.

Texas Gulf Prod. Co. No. 1 Arnold, 990 ft. from N line, 330 ft. from E line of sec. 32, Bonnieview Subd., Wood Ranch.
S.D. 3,000 ft.

San Jacinto County

Cockburn Oil Co. No. 1 Cruse, 330 ft. from S and E lines of 163-ac. tract, H.&T.C. Sur.
Rig up.

Cockburn Oil Co. No. 1 Kilburn Moore, 330 ft. from S and E lines of 854.33-ac. tract in J. F. De Rumayor Sur.
T.D. 405 ft.; running 10¾-in. csg.

John Deering et al's No. 1 Randolph, 330 ft. S of center of N line of Tract 7 of the Randolph Sud., V. Flores Sur.
Derrick.

Goldston & Decker No. 1 Randolph, 330 ft. S of center of Lot No. 7, 2,666 ft. NW along line of A. Neal Sur. from S cor. thence 1,600 ft. W at right angles, Vital Flores Sur.
Moving in.

J. E. Hooper et al's No. 1 R. B. Love, 475 S of N line, 2,000 ft. W of E line, 177-ac. tract, Drury McGee Sur.
S.D. 5,749 ft.

Victoria County

Guiberson and Pettit et al No. 1 Wedemeyer, 4,980 ft. SW along NW line of survey from R.R. and 1,129 ft. SE at R/A, J. R. Carbajal Sur., 6 miles NW of Victoria.
Rig up.

Heep Oil Corp.'s No. 1 J. J. Welder, 300 ft. SW line, 750 ft. from SE line of Nursery area, Phillip Graves Sur.
Drlg. water well.

Walker County

Bradley et al's No. 1 Trinity Lumber Co., N 45 deg., E 1,305 ft., N 45 deg., W 400 ft. from S cor. of J. C. Harrison 320-ac. Sur.
S.D. 310 ft.; drlg. plug.

Wharton County

Pure Oil Co.'s No. 1 Paige, 1,397 ft. NE and 467 ft. SE from W cor. of 159.27-ac. lease, James Pirie Sur.
Drlg. sand 7,676 ft.

SOUTH LOUISIANA

Acadia Parish

Superior Oil and Woodley Pet. Co. No. 2 Adams-Smith, 2,100 ft. N and 100 ft. E of No. 1 Adams-Smith.
Location.

Beauregard Parish

Richardson & Martin No. 1 Southwest Lbr. Co.
Location.

Calcasieu Parish

Lahay & Lambert et al's No. 1 Landry, 1,369 ft. southwesterly from NW cor., 5,600 ft. southwesterly from NE cor. of NW¼ of SE¼ of Sec. 23-11s-10w.
Spudded 28 ft. and S.D.

Union Sulphur Co. No. 2 Prairie Farm Land and Canal Co., 330 ft. E and N of SW cor. of NW¼ of NW¼ sec. 2-11s-9w.
Location.

Wheeler Oil Corp.'s No. 1 School Lot, 1,703 ft. E, 1,325 ft. N of SW cor. Sec. 16-9s-7w.
S.D. 7,210 ft.

Cameron Parish

Magnolia Pet. Corp. No. 1 Miami Corp., in center of NE¼ of sec. 32-12s-8w, 3 mi. SE of No. 1 Broussard, and 100 ft. from Intra-Coastal Canal.
Building derrick.

Pan American Prod. Co. No. 1 Lutcher-Moore, 17,090 ft. W and 4,208 ft. N of SE cor. Sec. 32-14s-11w.
Drlg. lime 8,835 ft.

Steinberger Pet. Co. No. 1 Drew, 330 ft. out of NW cor. NE¼ of Sec. 26-10s-11w.
Location.

Concordia Parish

Zeni Oil Co. No. 1 E. J. Young, 1,200 ft. W of E line, 100 ft. N of S line of SE¼ of SE¼ of sec. 28-6n-8e.
S.D. 510 ft.

Evangeline Parish

Basile Oil Co. No. 1 Haas-Hirsch, 1,680 ft. S, 350 ft. W of NE corner of sec. 14-6s-2w (work over).
Drlg. shale 6,850 ft.

J. E. Ladue No. 4 Vidrien, Sec. 34-3-2.
S.D. 1,636 ft.

Sparks-Mitchell and Jacobson's No. 1 Vidrine, 1,114 ft. S, 1,060 ft. W of NE cor. Sec. 47-4s-2e.
S.D. 1,635 ft.

East Feliciana Parish

Thompson Creek Oil Co. No. 1 Fannie Noland, 2,600 ft. E and 1,580 ft. N of SW cor. Sec. 70.
S.D. 1,589 ft.

Iberia Parish

Jefferson Lake Oil Co. No. 1 State, Twp. 12s-5e.
T.D. 8,469 ft.; P.B. to 8,464 ft.; pulling screen and liner.

Jefferson Lake Oil Co. No. 322 State Lake Pleigneur, 224 ft. N and 24 degrees, 15 inches E of No. 25.
Shale 3,370 ft.; no report.

Meade Oil Co. No. 1 Hamilton, near town of Lose, in the NW cor. of parish, Sec. 38-12-5.
S.D. 200 ft.

Texas Co. No. 1 State Fausse Point.
D.S. stuck at 6,400 ft.; milling on csg.

Jefferson Davis Parish

J. K. Lewis No. 1 Lockmoore, 150 ft. N and W of SE cor. NW¼ of Sec. 32-7-6.
T.D. 5,710 ft.; T.D. of sidetracked hole 5,510 ft.; cutting and pulling D.S.

Shell Pet. Corp. No. 1 Lacassan, 990 ft. N, 1,980 ft. E of SW cor. of Sec. 20-11s-5w.
Coring sand and shell 8,648 ft.

LaFourche Parish

Coastal Oil Co.'s No. 2 Constantine, 1,476 ft. N, 809 ft. E of SW cor. Sec. 36-21-22e.
Location.

St. Bernard Parish

Emerald Pet. Corp.'s "Shell Beach Properties" No. 1, on S edge of Bayou Louis. Sec. 31-13s-15e.
T.D. 7,355 ft.; hole caved in while S.D. at 5,480 ft.; cemented 7-in. csg. at 5,480 ft.

Southern Sulphur Co. No. 1 Lake Borgne, sec. 13s-16e.
S.D. 1,723 ft.

St. James Parish

Shell Pet. Corp. No. 1 Colonial Sugar, beginning at SE cor. sec. 5-12s-5e, thence N with E line of section 5,805 ft., thence at R/A with E line of sec. 5,604 ft.
Rigging up.

St. Landry Parish

Gulf Prod. Co. No. 1 Sibille, 2,280 ft. N. 320 ft. W at R/A from SE cor. of sec. 7-6s-7e.
Rig up.

St. Martin Parish

Texas Co. No. 1 State Lake, 5,180 ft. E. 350 ft. N of SW cor. of Sec. 10-10s-9e.
Drlg. hard shale 7,452 ft.

S. C. Yingling et al No. 1 State, 2,957 ft. N and 1,118 ft. W of SE cor. of SE cor. of sec. 13-9s-8w.
Rig up.

S. C. Yingling No. 2 State, 3,066 ft. N and 2,003 ft. W of SE cor. of sec. 13-9s-8w.
Location.

Plaquemines Parish

Southern Sulphur Co.'s No. 1 Manhattan Fruit Co.
Drlg. sandy shale with show of oil 3,230 ft.

St. Tammy Parish

Danciger O. & R. Co. No. 1 Holdsworth, C NW¼ SE¼ Sec. 26-8s-14e.
T.D. 6,053 ft.; may test.

Vermillion Parish

Delcambre & Shelton No. 1 Adam Delcambre, south degrees E, 825 ft. from most northerly cor. of irregular Sec. 63-17-5.
S.D. 2,704 ft.

Vernon Parish

Llano Cooperative Oil Co. No. 3 Llano Del Rio, 1,185 ft. S and 1,000 ft. W of NE cor. of sec. 7-1n-9w.
Sand and shale 2,310 ft.; no report.

Terrebonne Parish

Shell Pet. Corp.'s No. 1 Realty Operators, 2,000 ft. due S of E cor. of triangular Sec. 76, Sur. 103, 17s-17e.
Coring sand 7,860 ft.

E. C. TEXAS WILDCATS

Week Ending January 18

Camp Hill Area—Anderson County

Burke Bros. No. 1 S. G. Moore, 385 ft. from N and 330 ft. from E line of 36.5-ac. tract, J. Rosson Sur.
Location.

Conner Todd No. 1 W. T. Todd, 1,264 ft. W and 294 ft. N line of A. B. Patton Sur., Boggy Creek Field.
Drlg. 515 ft.

Sun Oil Co. No. 1 Carl Rossen, W. T. Davis Survey, 330 ft. from W line and 680 ft. from N line of tract.
Pecan Gap 3,900-4,205 ft.; drlg. 4,327 ft.

Sun Oil Co. No. 2 Carl Rosson, W. T. Davis Survey, 330 ft. from E line and 466 ft. from N line of tract.
Derrick.

Long Lake Area—Anderson County

Patton et al No. 1 J. W. Fock, 467 ft. from S and E of 80-ac. lease, Jas. Madden Sur.
Set csg. 5,350 ft.

Tide Water-Seaboard No. 4 Shaw & Cern. Daniel Parker Sur., 993 ft. W of No. 3.
Pecan Gap 3,523-4,623 ft.; drlg. 4,738 ft.

Angelina County

F. P. Allday's No. 1 J. H. Moore 2,200 ft. southerly S line and 600 ft. E line of H. R. Wilson Survey, 7 miles E of Diboll and NE of Lee-Tex No. 1 Guissler.
To abd. at 2,100 ft.

Lee-Tex Oil Co. No. 2 Southern Pine Lumber Co. (Guissler), 800 ft. N of No. 1 Guissler, 600 ft. from W line of B. J. Thompson Sur.
S.D. 2,051 ft.; to set pipe.

Morris et al's No. 1 Pruyear, cen. 165-ac. tract, Thos. Hank Sur., 7 miles E of Huntington.
Top Austin 500 ft.; drlg. 550 ft.

Schafer Co. No. 1 Phelps, 400 ft. from S and 150 ft. from W line of 320-ac. tract of J. J. Anselmo Sur., 1 mile NE of Diboll.
Elev. 239 ft.; T.D. 2,000 ft.

Bowie County

Tex-Ark. Oil Co.'s No. 1 Hamilton Estate, 600 ft. E and 350 ft. N lines, J. Milan Sur., 4 miles S of Red River.
S.D. 1,121 ft.

Woodley & Bentley's No. 1 Lumpkin, 330 ft. out of NE cor. of 245-ac. tract, J McDermot Sur., 1 mile SW of Dalby Springs.
S.D. 120 ft.

Collin County

Port Bolivar O. & R. Co.'s No. 1-A Dunning, 24 ft. W of No. 1, Wm. Creager Sur., 2 miles SE of Van Alystin.
Elev. 722 ft.; S.D. 3,865 ft.

Port Bolivar O. & R. Co.'s No. 1 J. Shirley, 330 ft. N and W of 310-ac. tract. J. Sorrell Sur., 4 miles SE of Anna.
Elev. 684 ft.; S.D. 1,963 ft.; skidded 60 ft. north.

Ellis County

Beasley O. & G. Co.'s Inc.'s No. 1 E. Roller, 1,000 ft. from NW and 1,500 ft. from SW line of Sur.
S.D. 160 ft.

Falls County

G. W. Langley No. 1 A. Springfield, P. Herrington Survey, 330 ft. from N line, and 330 ft. from W line of 40-ac. tract. NE Bremond.
Elev. 505 ft.; S.D. 460 ft.

Fannin County

Paul Garrett No. 1 G. D. Galloway, 300 ft. from S line and 195 ft. from W line of tract and Wm. M. Rice Sur., 1½ miles S of Leonard.
S.D. 15 ft.

Warner Moore et al's No. 2 Hancock Est., 1,200 ft. N and 500 ft. E of L. M. Baldock Sur., 1 mile E of Trenton.
Location.

Warner Moore et al's No. 1 Hancock, 400 ft. from W and 150 ft. N lines, Sec. 16, L. M. Baldock Sur., ½ mile S of Trenton.
Top sand 645 ft.; S.D. 689 ft.

R. Franklin Smith-Allen's No. 1 Argo, center of 16½-ac. tract in J. G. Swisher Sur.
S.D. 1,800 ft.

Freestone County

Haley & Young No. 1 Jack Epps, 3,440 ft. S and 480 ft. W of SW cor. of L. J. Parker Sur. but in D. Bullock Sur., 800 ft. NE of Haley & Young No. 1 McKnight, 6½ miles SE of League.
Austin chalk 3,761-4,143 ft.; S.D. 4,146 ft.

Grayson County

Olson Drlg. Co.'s No. 1 Southwestern Life Ins. Co., center of 160-ac. tract and J. C. Jamison Sur., 6 miles NW of Denison.
Elev. 767 ft.; gas sand 4,441-63 ft.; ran Schlumberger; showed very little porosity; fishing 4,668 ft.

Port Bolivar O. & R. Co.'s No. 1 C. Taylor, 330 ft. S and W of 1,542-ac. tract, Fitzhugh Sur., 2¼ miles SE of Gunter.
S.D. 3,930 ft.

Gregg County

Killingsworth Oil Co. et al No. 1 Killingsworth, 330 ft. from W and center of N and S lines of 50-ac. tract, Henry Hathaway Sur., 9 miles N of Longview, 2 miles E of East Texas field.
Drlg. 2,047 ft.

Henderson County

C. & G. Oil Co.'s No. 1 Sterrett, 850 ft. from S and 200 ft. from W of Isham Marshall Sur.
Drlg. 1,536 ft.

Sparks et al No. 1 P. E. Perry, 1,000 ft. from E and N of most northerly S line of 167.8-ac. tract in A. York Sur., 500 ft. W of H. B. Ashburn dry hole, 5 miles S of Brownsboro.
Derrick.

H. M. Wilson's No. 1 fee, 970 varas S of NE cor. of 943-ac. tract, 5 miles N of Malakoff.
S.D. 2,200 ft.

Kaufman County

Murry & Emerson's No. 1 G. W. Martin 1,660 ft. from W and 20 ft. from N of 140-ac. tract, from W. L. C. Butler Sur., 2 miles NE of Kemp.
Top Austin 1,940-74 ft.; S.D. 2,403 ft.

Lamar County

Bruce Bros. No. 1 Chas. Price, 300 ft. from S of most southerly SW cor. and 1,000 ft. from W line of Wm. Nelson Sur., 10 miles NE of Paris, 1 mile W of Trout.
S.D. 336 ft.

L. W. Dennis No. 1 W. C. Clark, 800 ft. from E and 1,800 ft. from N line of G. H. Hall Sur., 3 miles NE of Reno.
Derrick.

L. W. Dennis, tr., No. 1 Mrs. E. Lawrence, 300 ft. from N and 1,160 ft. from W of T. B. Roundtree Sur., 2 miles NE of Blossom.
Derrick.

Texas-Gulf Pet. Co. No. 1 A. L. Darnell, 1,490 varas from S and 1,080 varas from W lines of H. L. Williams Sur., 4 miles NE of Paris.
S.D. 2,620 ft.

North Texas Synd., Eric T. Bradley, tr.'s No. 1 Wright, Alfred Moore Sur., 1,600 ft. S and 4,300 ft. from E line of Sur.
T.D. 2,702 ft.; S.D.

Limestone County

D. Crawford No. 2 Mary Ward, 400 ft. NE of No. 1, Pedro Varela Sur.
S.D. 2,997 ft.; to P.B. to 2,991 ft.

D. Crawford's No. 1 Mary Ward, 150 ft. out of NE cor. 22-ac. tract, P. Varella Sur.
T.D. 3,001 ft.; 15 bbls. daily; to W.O.

C. L. Lytle No. 1 J. L. Thompson, 120 ft. SE and 200 ft. SW lines of tract in P. Varella Sur., in Mexia field.
Derrick.

Money Oil Co. No. 1 Rosson Est., 150 ft. from NE and SE lines of Blk. 4, Pedro Varela Sur., in Nigger Creek field.
Rigged up.

McLennan County

T. Cunningham's No. 1 M. G. McKee, 940 ft. from S and 2,640 ft. W of 640-ac. tract, M. Snell Sur., near Bruceville.
Derrick.

Riley & Barrow's No. 1 Hortsman, V. C. Walters Sur., 500 ft. from most northerly N line, 500 ft. from most westerly E line, 500-ac. tract, 1½ miles S McGregor.
S.D. 475 ft.

Navarro County

McCullough et al No. 1 C. Berry, 330 ft. from SE cor. of 35-ac. tract, 1 mile W of Dawson, William Moss Sur.
S.D. 1,500 ft.

Peyton Bros. No. 1 J. F. Rushing, 150 ft. from N and W lines of 12.5-ac. tract in H. Ford Sur., 2 miles W of Currie.
Austin chalk 2,147-2,515 ft.; coring 2,-858 ft.

E. M. Thomason No. 1 Estes Bros., 150 ft. from NW line and 750 ft. from SW line, Blk. 11, 1 mile E of Roane.
S.D. 1,255 ft.

E. M. Thomason No. 1 T. P. Shivers, 1,-500 ft. from W and 600 ft. N of 69-ac. tract, W. R. Bowen Sur., 2 miles S of Corsicana.
T.D. 2,187 ft.; S.D.

Rains County

Allen & McClung No. 1 Giles, T. Cunningham Sur., Abst. 143, 330 ft. from W line and 200 ft. from N line of 105-ac. Giles tract, 5 miles SW of Emory.
Derrick.

Allen & McClung No. 1 Ida Bullard, N. Brantely Sur., 1,300 ft. from W line and 200 ft. from N line of 25-ac. tract, 2 miles SW of Emory.
S.D. 117 ft.

Allen & McClung and Collard No. 1 S. P. Cain, 1,350 ft. N and 1,550 ft. W line of J. Harges Sur., 1 mile NW of Emory.
Location.

Red River County

Abercrombie & Harrison No. 1 T. L. McKnight, 1,056 ft. from N and 2,640 ft. from E line in Robert Hill, 12 or 14 miles N of Clarksville.
Rig.

Joe Dinger et al No. 2 Morris, John Guest Sur., approx. 175 ft. NW of No. 1 Morris, 1 mile S Detroit.
T.D. 825 ft.; S.D.

R. H. Chew et al No. 1 J. F. Brooks, 900 ft. N and 600 ft. of W line of 320-ac. tract, B. Gooch Sur., ½ mile S Bagswell.
Derrick.

Joiner No. 1 D. Rust, C. C. Wilborn Sur., 234 ft. N and 254 ft. W of most southerly SE cor. of survey, just S of Avery.
Derrick.

Williams et al No. 1 L. and O. Roberts, 462 ft. from S and 792 ft. from E of 200-ac. tract, James Bankston Sur., 2 miles NE of Annona.
S.D. 160 ft.

Rockwall County

Dodd et al No. 1 M. F. Lofland, 2,250 ft. from N and 3,250 ft. from E line of 392-ac. tract, W. H. Beird Sur., 2½ miles SE of Rockwell.
S.D. 512 ft.

Rusk County

McCallum et al No. 1 E. C. Gary, 600 ft. from E and 340 ft. from N of 265-ac. tract, John Piburn Sur., 5 miles S of Henderson.
Derrick; 4,100-ft. test.

J. W. Shipman et al No. 1 Citizens Natl. Bank, NE cor. of 125-ac. tract, J. J. Y'Barbo Sur., 4 miles NE of Henderson.
S.D. 3,300 ft.

Smith County

Frank D. Staples No. 1 Luther Hale, T. C. William Survey, 1,460 ft. from E line and 192 ft. from S line of tract, 3½ mi. NW Arp.
T.D. 50 ft.; S.D.

Winona Oil Corp. No. 1 McClung, 330 ft. from S and 150 ft. from W of 22.5-ac. tract, E. Newberry Sur., 1 mile E of Winona.
Rigged up.

Titus County

Howze, Thompson & Peveto No. 1, C. M. Carr, North M. V. Delgado Survey, 2,640 ft. from easterly E line and 1,888 ft.

from northerly N line of Sur., 1½ miles E of Talco.
Trinity test; Pecan Gap 1,611-1,788 ft.; Austin 3,011 ft.; hard 3,032 ft.; elev. 370 ft.; drlg. 3,400 ft.

8. Rotondi's No. 1 Lillianstun, 1,200 ft. S from NW cor. of J. Bodt Sur. and 331 ft. N, but in W. H. Crawford Sur., 5 miles NE of Talco.
Elev. 391 ft.; derrick.

Van Zandt County

J. H. Gilliam et al's No. 1 E. S. Martin, 185 ft. most southerly SE line, and 200 ft. from most easterly SW line of tract, James Hamilton Sur., 3 miles NE of Wills Point.
Location.
Mrs. A. Holton No. 2 A. Crim, 155 ft. from N and E lines, Nacogdoches School lands.
Elev. 490 ft.; rigged up.

Wood County

Gulf Prod. Co. No. 1 C. D. McCollum, 330 ft. out of NE cor. of 39.6-ac. tract, Jos. Simpkins, ¼ mile S of Alba.
Pecan Gap 2,370-2,612 ft.; drlg. 3,060 ft.

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
General Pet., No. 15 Capitan, Santa Barbara Co.	32- 5-30	323	suspended
General Pet., No. 16 Capitan, Santa Barbara Co.	5- 4-30	....	rig, suspended
Honolulu Oil Corp., No. 9 Elwood, Santa Barbara Co.	tideland	5,065	cmtd. 4,550
Barnsdall-Rio Grande, No. 12 Elwood, Santa Barbara	15- 4-29	7,157	prod. test.
Barnsdall-Rio Grande, No. 6 Elwood, Santa Barbara	15- 4-29	3,775	flow. 760 b.d.
Barnsdall-Rio Grande, No. 2 Elwood, Santa Barbara	15- 4-29	6,492	suspended
Bankline Oil Co., No. 10 Elwood, Santa Barbara Co.	tideland	4,544	hd. sd. drlg.
Pacific Western, No. 16 Elwood, Santa Barbara Co.	tideland	3,476	flow. 420 b.d.
Signal Oil Co., No. 6 Elwood, Santa Barbara Co.	tideland	3,524	cmtd. 3,524
Spalding, Caroline, No. 12 Elwood, Santa Barbara Co.	tideland	....	rig, suspended
Spalding, Caroline, No. 13 Elwood, Santa Barbara Co.	tideland	....	bldg. rig.
Fairview Oil Co., No. 1 Purisima, Santa Barbara Co.	18- 7-34	3,939	suspended
Mar Monte Oil Co., No. 1 Summerland, Santa Barbara	16- 4-26	1,604	suspended
Santa Barbara Oil, No. 1 Carpinteria, Santa Barbara	29- 4-25	2,086	sd. sh. drlg.
Dietzman, Julius, No. 1 Carpinteria, Santa Barbara Co.	8- 4-25	....	rig, suspended
Las Posas Pet., No. 1 Las Posas, Ventura Co.	22- 3-20	8,116	suspended
Calco Pet. Co., No. 1 Las Posas, Ventura Co.	17- 3-20	....	bldg. rig.
Union Oil Co., No. 1 Bardsdale, Ventura Co.	12- 3-20	5,758	recmtd. 5,250
Monticello Oil Co., No. 1 Bardsdale, Ventura Co.	12- 3-20	4,011	fish. D.P.
Duke Oil Co., No. 1 Bardsdale, Ventura Co.	7- 3-19	1,431	hd. sh. drlg.
Supreme Oil Co., No. 1 Sespe, Ventura Co.	1- 4-20	880	fishing.
Bankline Oil Co., No. 1 Sespe, Ventura Co.	34- 5-20	1,747	sd. sh. drlg.
Topa Topa Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	874	fishing
Nelson & Co., No. 1 Sespe, Ventura Co.	26- 4-19	1,632	rd. sd. drlg.
Laying & Jacobs, No. 1 Shiells Canyon, Ventura Co.	32- 4-19	1,222	gr. sd. drlg.
El Rancho Oil Co., No. 1 Shiells Canyon, Ventura Co.	9- 3-19	1,110	suspended
Beatco Pet. Co., No. 1 Shiells Canyon, Ventura Co.	2- 3-19	....	bldg. rig.
Bankline Oil Co., No. 2 Shiells Canyon, Ventura Co.	3- 3-19	3,242	sd. sh. drlg.
The Texas Co., No. 129 Shiells Canyon, Ventura Co.	4- 3-19	....	rigging up
Hull, James, No. 1 Santa Susana, Ventura Co.	2- 2-18	1,500	sd. sh. drlg.
Taloma Oil Co., No. 1 Santa Susana, Ventura Co.	12- 2-18	2,851	suspended
Bolsa Chica Oil Co., No. 2 Temescal, Ventura Co.	4- 4-18	....	bldg. rig.
Dawson Oil Co., No. 1 Simi, Ventura Co.	5- 2-17	1,911	redrlg. 1,900
Ventura Expl. Co., No. 1 Saticoy, Ventura Co.	30- 3-22	7,072	P.B. 6,435
Prop. Service Corp., No. 1 Lloyd, Ventura Co.	24- 3-23	8,889	P.B. 7,071
General Pet., No. 1 Oxnard, Ventura Co.	26- 2-23	7,625	dry; abd.
General Pet., No. 3 Rincon, Ventura Co.	tideland	3,922	P.B. 3,000
Honolulu Oil Corp., No. 2 Rincon, Ventura Co.	tideland	3,434	dry; abd.
Honolulu Oil Corp., No. 3 Rincon, Ventura Co.	tideland	3,000	redrlg. 1,570
Continental Oil Co., No. 2 Ojai, Ventura Co.	13- 4-23	1,031	rd. sh. drlg.
Continental Oil Co., No. 5 San Miguelito, Ventura Co.	15- 3-24	4,842	cleaning out
Standard Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	5,887	fish. D.P.
Cumberland Oil Co., No. 1 Devil's Den, Kern Co.	17-26-18	4,397	suspended
Belmac Drlg. Co., No. 1 McKittrick, Kern Co.	22-29-21	4,797	hd. sd. drlg.
Belmac Drlg. Co., No. 2 McKittrick, Kern Co.	21-29-21	498	suspended
General Pet. Co., No. 1 South Belridge, Kern Co.	30-28-21	11,377	suspended
Standard Oil Co., No. 3 North Belridge, Kern Co.	36-27-20	8,253	cmtd. 8,250
Standard Oil Co., No. 4 North Belridge, Kern Co.	36-27-20	....	rig, suspended
Belridge Oil Co., No. 48-35 North Belridge, Kern Co.	35-27-20	4,658	suspended
Belridge Oil Co., No. 18-35 North Belridge, Kern Co.	35-27-20	4,596	sd. sh. drlg.
Belridge Oil Co., No. 6-1 North Belridge, Kern Co.	1-28-28	4,598	sd. sh. drlg.
Union Oil Co., No. 20 North Belridge, Kern Co.	36-27-20	9,129	hd. sd. drlg.
Union Oil Co., No. 21 North Belridge, Kern Co.	36-27-20	....	rigged up
Beck, Albert, No. 1 North Belridge, Kern Co.	33-28-20	1,282	gr. sd. drlg.
Woods & Bailey, No. 1 McFarland, Kern Co.	16-26-26	2,490	suspended
Standard Oil Co., No. 1 Delano, Kern Co.	1-25-23	2,455	gas; shut in
Standard Oil Co., No. 2 Delano, Kern Co.	1-25-23	3,256	gas; shut in
Standard Oil Co., No. 4 Delano, Kern Co.	34-24-23	2,460	gas; shut in
Standard Oil Co., No. 5 Delano, Kern Co.	33-24-23	2,466	gas; shut in
Standard Oil Co., No. 6 Delano, Kern Co.	1-25-23	3,997	bl. sh. drlg.
Trico Oil & Gas Co., No. 1 Delano, Kern Co.	3-25-23	2,525	gas; shut in
Trico Oil & Gas Co., No. 5 Delano, Kern Co.	3-25-23	2,467	gas; shut in
Richardson & Heaston, No. 1 Kern Front, Kern Co.	5-28-28	3,051	secured
McDonald & Dearin, No. 1 Kern Front, Kern Co.	10-28-27	2,129	rig. to pump
National Oil Co., No. 4 Kern Front, Kern Co.	11-28-27	1,759	cmtd. 1,629
C. C. M. Oil Co., No. 11 Kern Front, Kern Co.	22-28-27	2,114	pump. 215 b.d.
C. C. M. Oil Co., No. 12 Kern Front, Kern Co.	22-28-27	1,292	sd. sh. drlg.
Republic Pet. Co., No. 6 Kern Front, Kern Co.	24-28-27	....	bldg. rig.
Kreigha, C. H., No. 1 Kern Front, Kern Co.	4-28-27	2,732	locate water
Standard Oil Co., No. 8 Kern Front, Kern Co.	24-28-27	2,041	rig. to pump
Standard Oil Co., No. 9 Kern Front, Kern Co.	5-28-27	....	bldg. rig
Standard Oil Co., No. 10 Kern Front, Kern Co.	5-28-27	....	location
Vega Oil Co., No. 1 Kern Front, Kern Co.	11-28-27	....	rig, suspended
The Texas Co., No. 3 Kern Front, Kern Co.	23-28-27	2,087	rig. to pump
Grace-Kern Oil Co., No. 1 Premier, Kern Co.	26-27-27	2,000	suspended
Sprabeck & Gardner, No. 1 Premier, Kern Co.	31-27-27	....	rigging up
Barcamba Oil Co., No. 1 Premier, Kern Co.	22-27-27	....	rig, suspended
Ohio Oil Co., No. 10 Premier Area, Kern Co.	22-27-27	1,998	sd. sh. drlg.
O. & F. Oil Co., No. 1 Premier Area, Kern Co.	22-27-27	2,725	suspended
Elliott Oil Co., No. 1 Fruitvale, Kern Co.	14-29-27	2,093	form. test
Dixie Lee Oil Co., No. 1 Fruitvale, Kern Co.	23-29-27	....	rigging up
North American, No. 1 Mountain View, Kern Co.	5-31-29	....	rigging up
Barnsdall Oil Co., No. 5 Mountain View, Kern Co.	32-30-29	6,046	flow. 622 b.d.
Gilmore-Snyder, No. 4 Mountain View, Kern Co.	24-30-28	4,979	sd. sh. drlg.
Union Oil Co., No. 10 Mountain View, Kern Co.	23-30-28	5,622	cleaning out
Hancock Oil Co., No. 3 Mountain View, Kern Co.	14-30-28	5,373	redrlg. 5,150
Hogan Pet. Co., No. 3 Mountain View, Kern Co.	32-30-29	6,287	cmtd. 6,250
Hogan Pet. Co., No. 9 Mountain View, Kern Co.	32-30-29	....	bldg. rig
Buffalo Oil Co., No. 1 Mountain View, Kern Co.	19-30-29	1,373	sd. sh. drlg.
Sheldon Oil Corp., No. 1 Mountain View, Kern Co.	19-30-29	4,792	sd. sh. drlg.
Vesta Pet. Co., No. 2 Mountain View, Kern Co.	19-30-29	5,262	suspended
Wood-Callahan Oil Co., No. 2 Mountain View, Kern Co.	25-30-28	1,763	sd. sh. drlg.
O'Kane & Brain, No. 2 Mountain View, Kern Co.	30-30-29	5,724	cmtd. 5,490
Mohawk Oil Co., No. 15 Mountain View, Kern Co.	30-30-29	5,960	cmtd. 5,880
Mohawk Oil Co., No. 16 Mountain View, Kern Co.	30-30-29	5,647	sd. sh. drlg.
Mohawk Oil Co., No. 17 Mountain View, Kern Co.	30-30-29	4,991	sd. sh. drlg.
Ohio Oil Co., No. 2 Mountain View, Kern Co.	33-30-29	5,621	sd. sh. drlg.
Ohio Oil Co., No. 3 Mountain View, Kern Co.	33-30-29	....	rig, suspended
Shell Oil Co., No. 5 Mountain View, Kern Co.	32-30-29	6,062	P.B. 5,757
Shell Oil Co., No. 6 Mountain View, Kern Co.	32-30-29	5,189	sd. sh. drlg.
Shell Oil Co., No. 7 Mountain View, Kern Co.	32-30-29	....	rig, suspended
Standard Oil Co., No. 16 Mountain View, Kern Co.	12-30-28	5,255	prod. test
Standard Oil Co., No. 20 Mountain View, Kern Co.	24-30-28	5,545	P.B. 5,514
Standard Oil Co., No. 21 Mountain View, Kern Co.	24-30-28	5,196	sd. sh. drlg.
Standard Oil Co., No. 22 Mountain View, Kern Co.	24-30-28	5,175	cmtd. 4,915
Standard Oil Co., No. 23 Mountain View, Kern Co.	13-30-28	1,720	sd. sh. drlg.
Standard Oil Co., No. 24 Mountain View, Kern Co.	13-30-28	....	rig, suspended
Mountain View Oil Co., No. 1 Mountain View, Kern Co.	25-30-28	5,814	rig. to pump
Jergins Trust, No. 6 Mountain View, Kern Co.	24-30-28	5,960	rig. to pump
Speik Oil Co., No. 1 Bakersfield, Kern Co.	25-30-27	4,685	gr. sd. drlg.
Shell Oil Co., No. 1 Stevens, Kern Co.	29-30-26	....	bldg. rig.
H. & L. Oil Co., No. 1 Round Mountain, Kern Co.	2-25-25	975	suspended
California Western Oil Co., No. 5 Round Mtn., Kern Co.	7-25-29	....	bldg. rig.
Barnsdall Oil Co., No. 1 Round Mountain, Kern Co.	17-25-29	....	bldg. rig
Mountain Pet. Co., No. 1 Round Mountain, Kern Co.	24-25-28	....	rigged up
Berry Oil Co., No. 2 Edison, Kern Co.	10-30-29	....	bldg. rig
Jergins Trust, No. 14 Edison, Kern Co.	13-30-29	1,249	pump. 40 b.d.
Jergins Trust, No. 15 Edison, Kern Co.	13-30-29	1,500	P.B. 1,285
Jergins Trust, No. 16 Edison, Kern Co.	13-30-29	1,457	dry; abd.
Jergins Trust, No. 17 Edison, Kern Co.	14-30-29	1,422	sd. sh. drlg.
Jergins Trust, No. 18 Edison, Kern Co.	24-30-29	....	rig, suspended
Shell Oil Co., No. 11 Edison, Kern Co.	15-30-29	....	location
Rogers Dev. Co., No. 1 Edison, Kern Co.	29-30-30	761	granite; dry
Rogers & Osborne, No. 1 Edison, Kern Co.	19-30-30	1,447	P.B. 1,077
General Pet., No. 13 Edison, Kern Co.	24-30-29	1,576	cmtd. 1,290
Union Oil Co., No. 3 Edison, Kern Co.	14-30-29	1,045	O.S. drlg.
Union Oil Co., No. 4 Edison, Kern Co.	14-30-29	....	bldg. rig
Seepie, J. O., No. 1 Elk Hills, Kern Co.	5-30-24	5,265	suspended
Hutcheson & Osborne, No. 2 Arvin, Kern Co.	32-30-30	1,280	suspended
Caloren Oil Co., No. 1 Midway, Kern Co.	27-32-23	1,575	sd. sh. drlg.
Quality Oil Co., No. 1 Midway, Kern Co.	27-32-23	1,551	sd. sh. drlg.
Evans, H. B., No. 12 Midway, Kern Co.	35-32-23	....	bldg. rig
Superior Oil Co., No. 1 Semi-Tropic, Kern Co.	23-27-23	2,418	gas; shut in
Fullerton Oil Co., No. 1 Semi-Tropic, Kern Co.	1-27-22	2,391	gas; shut in
Fullerton Oil Co., No. 2 Semi-Tropic, Kern Co.	14-27-23	2,463	gas; shut in
Fullerton Oil Co., No. 3 Semi-Tropic, Kern Co.	9-27-23	3,150	gas; shut in
Fullerton Oil Co., No. 4 Semi-Tropic, Kern Co.	26-27-23	2,395	gas; shut in
Fullerton Oil Co. No. 5 Semi-Tropic, Kern Co.	8-27-23	2,347	gas; shut in
Fullerton Oil Co., No. 6 Semi-Tropic, Kern Co.	25-27-23	2,441	gas; shut in
Fullerton Oil Co., No. 7 Semi-Tropic, Kern Co.	25-27-23	2,437	gas; shut in
Fullerton Oil Co., No. 8 Semi-Tropic, Kern Co.	25-27-23	2,439	gas; shut in
Fullerton Oil Co., No. 9 Semi-Tropic, Kern Co.	26-27-23	2,431	gas; shut in
Fullerton Oil Co., No. 10 Semi-Tropic, Kern Co.	15-27-23	2,414	gas; shut in
Standard Oil Co., No. 1 Semi-Tropic, Kern Co.	8-27-23	3,200	gas; shut in
Standard Oil Co., No. 3 Semi-Tropic, Kern Co.	7-27-23	2,355	gas; shut in
Standard Oil Co., No. 6 Semi-Tropic, Kern Co.	8-27-23	2,361	gas; shut in
Standard Oil Co., No. 8 Semi-Tropic, Kern Co.	12-27-22	2,426	gas; shut in
Standard Oil Co., No. 13 Semi-Tropic, Kern Co.	6-27-23	2,408	gas; shut in
Standard Oil Co., No. 15 Semi-Tropic, Kern Co.	16-27-23	3,215	gas; shut in
Standard Oil Co., No. 17 Semi-Tropic, Kern Co.	16-27-23	3,051	gas; shut in
Milham Expl. Co., No. 1 Semi-Tropic, Kern Co.	15-27-23	3,122	gas; shut in
Milham Expl. Co., No. 2 Semi-Tropic, Kern Co.	15-27-23	2,429	gas; shut in
Milham Expl. Co., No. 3 Semi-Tropic, Kern Co.	15-27-23	2,385	gas; shut in
Milham Expl. Co., No. 4 Semi-Tropic, Kern Co.	24-27-23	2,486	gas; shut in
Comanche Oil Co., No. 1 Comanche, Kern Co.	15-32-29	5,394	suspended
Tejon Ridge Oil Co., No. 1 Comanche, Kern Co.	23-32-29	2,178	suspended
Ohio Oil Co., No. 1 Buena Vista, Kern Co.	31-31-26	5,302	gas; shut in
Ohio Oil Co., No. 4 Buena Vista, Kern Co.	32-31-26	4,221	5,000 m.c.f.
Ohio Oil Co., No. 5 Buena Vista, Kern Co.	31-31-26	....	bldg. rig
Silver Gate Oil & Gas Co., No. 1 Tejon, Kern Co.	7-10-19	3,005	suspended
Milham Expl. Co., No. 1 Huron, Fresno Co.	13-20-18	1,285	sd. sh. drlg.
Conlon, J. M., No. 1 Coalinga, Fresno Co.	30-19-15	....	rigging up
Pacific Expl. Co., No. 1 Kreyenhagen, Fresno Co.	17-21-17	1,600	suspended
Union Oil Co., No. 1 Lillis-Welsh, Fresno Co.	24-21-16	10,975	sd. sh. drlg.
K. N. D. A., No. 54 Kettleman North, Fresno Co.	24-21-16	8,658	redrlg. 8,620
Standard Oil Co., No. 2 Kettleman Middle, Kings Co.	29-23-19	7,760	wet; idle
Pet. Sec., No. 1 Kettleman Middle, Kings Co.	30-23-19	7,790	flow. 470 b.d.
Royalty Service Corp., No. 1 Pyramid Hills, Kings Co.	16-24-18	1,545	sd. sh. drlg.
Burch, I. L., No. 1 Cuyama, San Luis Obispo Co.	3-10-26	....	location
Farrel Pet., Well No. 1, San Luis Obispo Co.	18-31-12	1,924	suspended
Birch-Royer Oil Co., No. 1 Pismo, San Luis Obispo Co.	33-31-13	1,546	recmtd. 1,434
United Oil Co., Well No. 1, San Luis Obispo Co.	2-32-21	150	suspended
Willett Oil Co., No. 1 Cholame, San Luis Obispo Co.	10-25-15	3,687	suspended
Kettleman View Oil Co., Well No. 1, Kings Co.	29-22-19	760	hd. sh. drlg.
Commonwealth Consd. Gas, No. 1 Tulare Lake, Kings	21-22-20	2,490	gas; shut in
Commonwealth Consd. Gas, No. 2 Tulare Lake, Kings	21-22-20	2,150	suspended
Union-Hancock, No. 1 Tulare Lake, Kings Co.	28-22-20	1,071	sd. sh. drlg.
Amerada Pet., No. 1 F.L.D., San Joaquin Co.	15- 2- 5	4,070	6,000 m.c.f.
Amerada Pet., No. 2 F.L.D., San Joaquin Co.	15- 2- 5	4,063	prod. gas
Amerada Pet., No. 3 F.L.D., San Joaquin Co.	22- 2- 5	4,060	prod. gas
Amerada Pet., No. 5 F.L.D., San Joaquin Co.	15- 2- 5	4,029	65,000 m.c.f.
Pure Oil Co., No. 1 Chowchilla, Madera Co.	7-10-14	8,402	gas; shut in
Pure Oil Co., No. 2 Chowchilla, Madera Co.	8-10-14	5,592	P.B. 2,610
Pure Oil Co., No. 3 Chowchilla, Madera Co.	6-10-14	2,500	dry; abd.
Northern Counties Pet., No. 1 Tehama, Tehama Co.	25-24- 3	5,527	sd. sh. drlg.
Shell Oil Co., No. 1 Branch, Monterey Co.	34-24-10	7,096	sd. sh. drlg.
Clark, George, No. 1 Ducor, Tulare Co.	31-23-28	1,320	suspended
Kabella Oil Co., No. 2 Ducor, Tulare Co.	12-23-27	865	hd. sd. drlg.
Kenwood Pet. Corp., No. 1 Ducor, Tulare Co.	14-24-27	....	bldg. rig.
Buttes Oilfields, Well No. 3, Sutter Co.	11-15- 1	5,340	suspended
Murrell, T. R., No. 1 Los Banos, Merced Co.	8-10- 9	265	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Republic Pet. Co., No. 2 El Segundo, Los Angeles Co.	18- 3-14	....	bldg. rig.
Larco Oil Co., No. 1 El Segundo, Los Angeles Co.	12- 3-15	7,600	dry; abd.
Marvin, J. L., No. 1 El Segundo, Los Angeles Co.	7- 3-14	6,359	redrlg. rig
Sovereign Oil Co., No. 1 El Segundo, Los Angeles Co.	22- 3-14	8,766	will recmt.
Cone Oil Co., No. 1 Lawndale, Los Angeles Co.	20- 3-14	....	rigging up
Pioneer Holding Co., No. 1 Moneta, Los Angeles Co.	33- 3-14	4,320	suspended
McDowell, O. B., No. 1 Torrance, Los Angeles Co.	35- 3-14	4,560	reaming
Dumas-Lewis Oil Co., No. 1 Redondo, Los Angeles Co.	6- 4-14	....	rigging up
Clark, T. R., No. 1 Redondo, Los Angeles Co.	6- 4-14	3,552	pump. 138 b.d.
West American Oil Co., No. 1 Dominguez, Los Angeles	3- 4-13	4,172	sd. sh. drlg.
McAdams Expl. Co., No. 1 Palos Verdes, Los Angeles	31- 4-13	3,896	sd. sh. drlg.
Shell Oil Co., No. 1 Clearwater, Los Angeles Co.	13- 4-13	4,853	sd. sh. drlg.
Clayton, G. L., No. 1 Long Beach, Los Angeles Co.	31- 3-12	6,765	suspended
Standard Oil Co., No. 14 Inglewood Deep, Los Angeles	8- 2-14	3,100	pump. 240 b.d.
Blackline Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	6,608	abandoning
Eastern Oil Co., No. 1 Del Rey, Los Angeles Co.	22- 2-15	....	rigging up
Fourl, C. W., No. 5 Del Rey, Los Angeles Co.	27- 2-15	....	bldg. rig
Anglo American Oil Co., No. 1 Del Rey, Los Angeles	27- 2-15	6,939	fishing
Herndon Dev. Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	....	rigging up
Union Oil Co., No. 18 Del Rey, Los Angeles Co.	27- 2-15	6,264	completing
Union Oil Co., No. 19 Del Rey, Los Angeles Co.	27- 2-15	5,995	sd. sh. drlg.
Union Oil Co., No. 20 Del Rey, Los Angeles Co.	27- 2-15	1,871	sd. sh. drlg.
Yant Pet. Corp., No. 1 Newhall, Los Angeles Co.	1- 3-16	1,140	suspended
Eyer Pet. Co., No. 1 Compton, Los Angeles Co.	20- 4-13	2,830	fish. D.P.
Monarch Oil Corp., No. 1 Topanga, Los Angeles Co.	5- 1-16	652	cmtd. 625
Standard Oil Co., No. 79 Montebello, Los Angeles Co.	2- 2-12	3,689	sd. sh. drlg.
Standard Oil Co., No. 80 Montebello, Los Angeles Co.	2- 2-12	1,945	sd. sh. drlg.
Standard Oil Co., No. 81 Montebello, Los Angeles Co.	2- 2-12	2,543	fish. D.P.
Standard Oil Co., No. 82 Montebello, Los Angeles Co.	2- 2-12	3,542	sd. sh. drlg.
Butler, C. R., No. 1 Montebello, Los Angeles Co.	14- 2-10	1,352	sd. sh. drlg.
Woodward Oil Co., No. 2 Montebello, Los Angeles Co.	4- 2-11	2,326	suspended
The Texas Co., No. 13 Montebello, Los Angeles Co.	5- 2-11	6,294	hd. sd. drlg.
Universal Consd., No. 1 Montebello, Los Angeles Co.	5- 2-11	5,590	will dpn.
Universal Consd., No. 3 Montebello, Los Angeles Co.	5- 2-11	4,582	sd. sh. drlg.
Wilshire Oil Co., No. 1 Montebello, Los Angeles Co.	5- 2-11	6,352	suspended
Wilshire Oil Co., No. 3 Montebello, Los Angeles Co.	11- 2-11	4,287	dry; abd.
North American, No. 1 Montebello, Los Angeles Co.	30- 1-10	5,952	suspended
Hillman & Long, No. 1 Montebello, Los Angeles Co.	28- 1-11	6,268	will dpn.
Frontier Oil Co., No. 1 Pico, Los Angeles Co.	7- 2-11	5,246	P.B. 4,990
Oil & Gas Associates, No. 1 Pico, Los Angeles Co.	9- 2-11	3,194	wet, suspended
Fraser, N. M., No. 1 Saugus, Los Angeles Co.	31- 4-16	976	rig. to pump.
International Oil Dev., No. 1 Saugus, Los Angeles Co.	34- 5-16	2,205	cleaning out
Great Coastal Oil Co., No. 1 Elsinore, Riverside Co.	36- 5- 5	1,830	hd. sd. drlg.
Albert Pet. Co., No. 1 Murrieta, Riverside Co.	23- 7- 3	2,786	will P.B.
Commander Oil Co., No. 1 Newport, Orange Co.	29- 6-10	398	bl. sh. drlg.
Twentieth Century Oil Co., No. 1 Huntington, Orange	36- 5-11	5,118	rigging up
Leaseholders Dev. Co., No. 1 Atwood, Orange Co.	26- 3- 9	4,185	suspended
Cook Drlg. Co., No 1 Anaheim, Orange Co.	26- 3- 9	2,758	rig. to pump
Standard Oil Co., No. 1 Anaheim, Orange Co.	36- 3- 9	2,792	redrlg. 2,370
Continental Oil Co., No. 1 Yorba, Orange Co.	21- 3- 9	....	rig, suspended
Tehama Pet. Co., No. 1 Chino, San Bernardino Co.	33- 2- 8	3,060	P.B. 1,460

S. W. TEXAS WILDCATS

Week Ending January 18

Atascosa County

R. C. Lee No. 1 Damsch, 160 ft. S line, 300 ft. E line, 152-ac. lease, J. T. Russell Sur. No. 1,222.
S.D.; installing light plant; T.D. 1,313 ft.

L. L. Motes et al No. 1 Atascosa, 1,300 ft. W line, 200 ft. N line, Farm tract No. 79, McNeill Sur.
Moving in material.

Bee County

Geo. W. Church's No. 1 Hearn, 2,000 ft. S No. 1 Wood.
S.D. for repairs; T.D. 5,940 ft.

Geo. M. Church et al No. 1 Ray, 360 ft. E line, 330 ft. N line, C 40-ac. tract, Anna Burk Sur.

T.D. 692 feet, S.D., drlg. water well.
LaSalle Pet. Corp. No. 1 Ray, 340 ft. E line, 330 ft. N line, 40-ac. tract, Anna Burk Sur.
No report.

G. M. Richardson No. 1 Mengers, center 100-ac. tract, Ryan estate, William Allen Sur.
Moving in material.

D. C. Smith's No. 1 Robertson, 150 ft. N and W lines, T. B. Barton Sur., Abst. 114. T.D. 3,059 ft.; dry and abd.

Bexar County

A. J. Byrne's No. 1 Newman, 330 ft., S and W lines lease, L. Munoz Survey No. 86.
Drlg. 636 ft.

J. Dupree No. 1 Coffey, Rodriguez Sur.
Drlg. 1,095 ft.

Joe Dupree No. 1 Russell, 1,500 ft. SE No. 1 Coffey.
Show oil; set csg. 1,001 ft.; W.O.C.

Morgan & Magna's No. 1 Kirkwood, Desaque Sur., 9 miles SW of San Antonio.
Location.

Bert Mowinkle No. 1 Kotsur, 434 ft. N line, 150 ft. W line, Loringville Sur.
Drlg. 879 ft.

H. A. Pagenkopf No. 1 Ritteman, 2,500 ft. E line, 500 ft. N line, C. Texada Sur.
Drlg. 1,087 ft.

H. B. Starkey's No. 1 McCloskey, 150 ft W line, 1,525 ft. N line lease, Desague Sur.
S.D. 803 ft.

Fred Thorman's No. 1 Sahn, 330 ft. E line, 400 ft. S line of tract, Sur. No. 3.
Spudded in; waiting on rotary rig.

Brooks County

California Co. No. 1 B. Garcia, 465 ft. N and W lines lease, B. Garcia tract, Salinas Sur.
Coring sand 2,830 ft.

Dick Young No. 1 Singer, 50 ft. E line, 460 ft. N line, NW¼ SE¼, Sur. 312.
Drlg. 661 ft.

Caldwell County

P. M. Armstrong's No. 1 Dunlap, 300 ft. W Bob Rose No. 1 Pierce, Dunlap area.
Moving in material.

Detroit-Texas Co. No. 3-A Dunlap, 40 ft. NW of No. 3, Sanders Sur.
Spudded in.

J. J. Elam's No. 1 Brown, 450 ft. SE and SW lines of lease, Souvereign Sur.
Set surface csg. 27 ft.; W.O.C.

W. H. Jennings' No. 1 McMahan, 250 ft. SE and SW lines, 63-ac. tr.
S.D. 150 ft.

Marts & Beavens No. 1 Jolley, 150 ft. N and E lines, lease, Edward Pettus Sur. Location.

Ogden & Reed No. 1 Lackey, 100 ft. SE line, 150 ft. NE line, 193-ac. tract, Damon Sur.
Drlg. 1,293 ft.

M. R. Tinkle No. 1 Dunlap, 150 ft. SE line, 150 ft. road, Seale Sur.
Spudded in.

Cameron County

Joseph Anderson's No. 1 Browne, 330 ft N line, Blk. 379, San Benito Subd., Espirito Santo grant, 3 miles N Rio Hondo
Standing 5,195 ft.

Kingwood & Daniels' No. 1 Port Isabel Share 29.
Spudded in; S.D.

Dewitt County

Reginald F. Baurke's No. 1 W. C. Steinman Est., 937 ft. from N and S lines Uriah Blue 1-3 League.
To resume drilling; T.D. 2,412 ft.

Universal Oil, Gas & Mining Co. No. 1 Schuebel, 330 ft. from S and W lines of tract, Fitzgerald grant.
T.D. 425 ft.; S.D.

Duval County

J. H. Chandler's No. 2 Rita Pena, Share 4, Mesquite grant.
Set csg. 2,832 ft.; W.O.C.

Continental Oil Co. No. 7-A Driscoll, sec. 52, Santa Rosalie Grant.
Drlg. 612 ft.

Chas. Daubert No. 1 Kreis, 2,600 ft. N line, 2,700 ft. E line, Sur. 518.
Spudded in.

Frank Gravis No. 1 C. K. Gravis, 1,650 ft. SE line, 990 ft. SW line, Sur. 250.
Drlg. 2,613 ft.

Howard Pet. Co.'s No. 1 Ruiz, sec. 4.
Location.

Magnolia Pet. Co. No. 1 Bennett, 330 ft. S and E lines, Sur. 434.
Drlg. 1,300 ft.

Rogers & Rogers No. 1 Cuellar, 330 ft. NE line, 990 ft. NW line, sec. 117.
Drlg. 310 ft.

Rogers & Rogers No. 1 Sutherland, 330 ft. S and W lines, Sec. 120.
Sand 2,863-85 ft.; cleaning; flowing approximately 20 bbls. per hr.

Santa Clara Oil Co.'s (Atkins & O'Neil) No. 1-A James F. Welder Heirs, 330 ft. SW cor. 640-ac. tr. lying W of sec. 525 in sec. 103.
Cored Government Wells sand 2,775 ft.; tested S.W.

Edwards County

Paul Teas' No. 1 Stewart, C SE¼, Sec. 3, G.C.&S.F. Sur.
Moving in rotary.

Frio County

Amerada Pet. Corp. No. 1 Correy & MacWilliams, 660 ft. N line, 125 ft. E line, Blk. 13, Jose Arocha Sur. No. 298.
Drlg. 3,073 ft.

W. D. Bacon's No. 1 Burns, 2,500 ft. S and W line, Thomas Clifton Sur.
S.D. for repairs, 2,775 ft.

Goliad County

Diamond Half Oil Co. No. 1 Gillette, 330 ft. NW and SW lines, 745-ac. tract, J. Gomez Survey, Abstract 125.
Drlg. 3,331 ft.

John W. Greer's No. 1 Pettus, Sebastiana Vela Sur.
Location.

Hendricks et al's No. 1 Gillette, 330 ft of NW and SW lines of tract, G. Gomez Sur.
Location.

Potter et al No. 1 Lutenbacher, 330 ft. N and W lines, Blk. 25, Goliad townsite.
Rigged up.

Thompson Drlg. Co.'s No. 1 Hays Taylor estate, 900 ft. SE line, 2,400 ft. W cor. 791-ac. tract, Smith Sur.
T.D. 5,301 ft.; standing.

Gonzales County

Tull et al No. 1 Boskz, 800 ft. S and E lines lease, B. McClure Sur.
Drlg. 439 ft.

Guadalupe County

Ace Locke No. 1 Holmes, 20-ac. tract, Cyrus Campbell Survey.
Drlg. 409 ft.

Paul Armstrong and J. E. Clark No. 1 Brodnoux, 150 ft. S and E lines, 36-ac. tract, W. P. King Sur.
Drlg. 516 ft.

Fred Scott No. 1 Dunavent, Wm. Pettus Survey.
Drlg. 153 ft.

Fred Scott No. 1 Shultz, Ed. Pettus Sur.
Drlg. 163 ft.

Jim Harper's No. 1 Flucker, 220 ft. NE line, 150 ft. NW line of tract, Smith Sur. No. 15.
T.D. 2,200 ft.; S.D.

O. W. Killam No. 1 Renecker, 150 ft. NW and NE lines, G. Chatwell Sur.
Drlg. 931 ft.

R. C. Robbins' No. 1 Manford, 1,200 ft. E line, 750 ft. S line, 100-ac. tr., Hodges ¾ league.
T.D. 2,608 ft.; bailing some oil.

H. P. Suggs No. 1 Sherrill, 2 miles E Staples.
Moving in material.

Hidalgo County

Gulf States Oil Co.'s No. 2 J. C. Engleman, 400 ft. S and E lines, Lot 3, Blk. 70, Las Mestanas grant.
Twist off 1,900 ft.; abd.; T.D. 5,770 ft.

Gulf States Oil Co. No. 3 John Engleman, Lot 3, Blk. 70, Las Mestanas grant.
Skidding rig.

Gulf States Oil Co. No. 1 Delta Orchards, 580 ft. from N line, 400 ft. W line, Lot 2, Blk. 73, Las Mestanas grant.
S.D. 1,500 ft.; moving in larger rig.

Kingwood Oil Co.'s No. 2 Osca Daskom, 723 ft. N line, 1,805 ft. E line, Blk. 36, Porc. 45, J. of Reynosa.
Abd. location.

Maddox & Tatum No. 1 John Shary, Tr. 48-2, Porc. 53, jurisdiction of Reynosa.
Moving in material.

Maxwell's No. 1 Hidalgo Water Dist. No. 2, Lot 11, Blk. 20, Alamo Land & Sugar Co Subd., Alamo tract, 10 miles SW McAllen.
Standing 721 ft.

Sloan et al No. 1 Brock & Showers, 250 ft. S and W lines, Lot 9, Blk. 16, Por. 80.
T.D. 6,003 ft.; P.B. to 4,300 ft. to perforate and swab.

Dayle L. Smith Oil Co.'s No. 1 Fairbanks & Young, Blk. 44, Por. 46, Jurisdiction of Reynosa.
Drlg. shale and sand streaks 1,430 ft.

Jim Hogg County

French Oil Corp.'s No. 1 E. Rodriguez, Share M-1, partition, Las Cuevitas grant
Drlg. 1,858 ft.

S. L. Miller Oil Co.'s No. 1 Yeager, 150 ft. E line, 477 ft. S line, Blk. 6, Sur. 20.
Drlg. 3,127 ft.

P. H. Nelson, trustee's No. 1 de la Garza, 530 ft. E line, 600 ft. S line, Blk. 293, Pippin Subd., Randado grant.
S.D. for water 610 ft.

Rankins No. 1 Vela, Lot 6, Sur. 5.
Drlg. 1,862 ft.

Jim Wells County

Houston Oil Co.'s No. 1 Hawkins & Wallace, 990 ft. S and E lines, Blk. 11.
Drlg. 2,720 ft.

G. M. Richardson No. 1 Garrett, 1,980 ft. S line, 1,640 ft. E line, sec. 5, N. G. Collins grant.
Moving in material.

Smith & Son No. 1 McGill, 660 ft. S No. 1 Dilworth.
Comp.; 20,000,000 ft. gas on 1/16-in. choke; 850 lbs. rock pressure.

Karnes County

California Co. No. 1 MacDougal, 250 ft. NE line, 190 ft. SE line, Wm. Guthrie Survey.
Moving in material.

Kendall County

H. W. Martin's No. 2 Edwin Houston, I.T.&N. Sur. 598.
Location.

Kerr County

Auld and Evans' No. 1 Heffner, 660 ft. N line, 330 ft. E line, Sec. 13, B.S.&F. Sur.
Drlg. 1,152 ft.

Evans & Edmiston's No. 1 Will Auld, 2,500 ft. SE No. 1 Love, 150 ft. S line lease, sec. 1,592.
Moving in material.

Kleberg County

J. W. Anderson No. 1 Kellam, 330 ft. S and W lines, Lot 8, Blk. 53, K.T.&I. Sur.
Moving in material.

John Bartlett's No. 1 Anton Deitz, SE¼ SE¼ Sec. 48, K.T.&I. Subd.
Drlg. 2,890 ft.

Clarke No. 1 Kellam, 330 ft. S and W lines, Blk. 5, Sec. 53, K.T.&I. Sur.
Derrick.

Fidelity Oil Co.'s No. 1 Flato, 150 ft. S and E lines, Blk. 14, Sec. 40, K.T.&I. Sur.
Location.

Fidelity Exp. Co.'s No. 1 Sam Michalk et al, 330 ft. from N line and 775 ft. from S line, Blk. 37, Sec. 5; 5 miles SE Kingsville.
Drlg. 3,109 ft.

Lee County

J. Spivey's No. 1 First National Bank, 300 ft. S and E lines, 346-ac. tract, Mach Sur.
Location.

Live Oak County

E. H. Buchner's No. 1 McNeill 300 ft of SW cor. of 40-ac. tract Blk 8 McNeill Subd.
Location.

Earl Calloway No. 1 Moostgemba, 408 ft. NE line, 325 ft. NW line, Lot 122, Williams Survey.
Coring 3,682 ft.; sands 3,580-96 ft.; 3,656-67 ft.; tested S.W.

Holland Oil Co. and Maraydun Oil Co. No. 1 Lyne, 1,198 ft. SE line, 8,956 ft. SW line, Sec. 74, Lyne Abst. 763.
S.D. 4,390 ft.

Ogden & Reed's No. 1 Reed, 330 ft. SW and NW lines, I.&G.N. R.R. Sur. No. 6.
Rigged up; standing.

Santa Clara Oil Co.'s (Atkins & O'Neil) No. 1 Corbett, sec. 2, R. H. Corbett Sur Top Government Wells 2,942 ft.; drlg. 3,015 ft.

L. W. Steiren No. 1 Smith, T. B. Reese Sur.
Building derrick.

McMullen County

Aransas Oil Co.'s No. 1 Reed, 330 ft. E line, 1,320 ft. S line, Spicer Sur.
T.D. 1,680 ft.; S.D.

F. Dayvault No. 1 Matula, 150 ft. S line, 2,462 ft. E line, lease, Jas. Garner Sur.
Set csg. on sand 730-60 ft.; W.O.C.

C. O. Garney's No. 1 Hagist, 330 ft. N and W lines, SE¼, Sur. 6.
Location.

Stewart et al's No. 1 G. Lowe, 2,000 ft. W line, 2,400 ft. S line, Geo. Bright Sur. No. 21.
T.D. 2,249 ft.; S.D.

S. Teichman No. 1 Henry, Torres Sur. No. 20.
Standing 374 ft.

Texas Pet. Co. No. 1 Hagist, 330 ft. E line, 4,500 ft. N line, Sur. 481.
Drlg. 2,527 ft.

Medina County

F. Brown's No. 1 Brucks, 900 ft. W line, 660 ft. S line, Brucks tract, John Ward Sur. No. 18.
Standing 560 ft.

Frank Brown's No. 2 Winn, 600 ft. W line, 300 ft. N line, Ward Sur.
Spudded in; S.D.

Caroco Oil Co. No. 3 Taylor, 1,370 ft. S line, 2,060 ft. W line, Sur. 135.
No report.

W. C. Campbell's No. 1 McMenemy, 160 ft. S and W lines, Sur. 33.
S.D. for repairs 2,600 ft.

Letro Oil Corp.'s No. 1 E. B. Forrest, 1,928 ft. from N line, 1,908 ft. from W line of 640-ac. tract. Blk 69
Top Ina sand 990 ft.; set csg. 891 ft.; completing.

Nueces County

Bluff Pet. Co.'s No. 1 Bluntzer, 330 ft. SW and SE lines, NE 1,007-ac. tract. Sec 6 Casa Blanco grant.
T.D. 6,053 ft.; dry and abd.

Dirks Bros. No. 1 R. R. Osborn, cen. SW¼, SW¼, sec. 44.
Moving in material.

T. Graham No. 1 Donnigan, 40-ac. tract. Sec. 7.
Spudded in.

A. E. Masterson's No. 1 Eschberger, 330 ft. S and W lines, N½ NE¼ Sec. 37 Pauls Subd., Driscoll ranch.
Plugged and abd. 6,002 ft.

La Jita Corp. No. 1 King, C SE¼ SW¼ Sec. 22.
Perforated 5,046-60 ft.; standing.

H. A. Meyer's No. 1 Harney, 850 ft. W line, 225 ft. S line, 3,200-ac. tract.
Location.

Thompson & McGrew No. 1 Geistman, 150 ft. N and W lines tr., J. R. Ward Sur.
Location.

San Patricio County

Stanolind O. & G. Co. No. 1 Alamo Iron Works, 1,280 ft. N line, 330 ft. E line, Blk. 17, Fitzsimmons League.
Drlg. shale and lime 5,592 ft.

Starr County

O. C. Borah No. 1 Virginia C. de Guerra, 3,500 ft. N line, 2,000 ft. E line, Share 92, Por. 68, Jurisdiction of Mier.
Set surface csg.; W.O.C.; 202 ft.

J. H. Clopton No. 1 Kelsey Bass, center Sec. 357.
Drlg. 783 ft.

John Clopton No. 3 Roos & Bennett, 6,253 ft. S, M.P. Ry., 3,000 ft. E line, Share 1-A, Por. 92, Jurisdiction of Camargo.
Perforating 2,451-64 ft.; to complete as gasser.

Cook-Maris Arnold's No. 1 S.C.C.C., 220 ft. N line, 25 ft. E line, Lot 24, Por. 89.
Resumed drlg. 3,813 ft.

Coreta Oil Co. No. 1 Haden et al, Share 47, Por. 80, Jurisdiction of Camargo.
Spudded in.

H. C. Harter & Mayhew No. 3 Sanchez, 739 ft. N line, 1,112 ft. W line, Share 69, Por. 72, Jurisdiction of Mier.
Drlg. 493 ft.

A. F. Vairnoy No. 1 Garza, 5,130 ft. N line, 1,320 ft. W line, Share 36, Por. 70, Jurisdiction of Mier.
Resumed drlg. 887 ft.

McCurry & Yates No. 1 S.C.C.C., 150 ft. W line, 510 ft. N line, Blk. 58, Por. 89. Location.

McCurry & Yates No. 2 S.C.C.C., 150 ft. E line, 510 ft. N line, Blk. 58, Por. 89. Location.

Pedernal Oil Co. No. 1 Hicks et al, 187 ft. from NW line, 318 ft. from NE line of Blk. 6, Pedernal grant.
T.D. 2,210 ft.; S.D.

Hiram M. Reed's No. 1 S.C.C.C., 886 ft. W line, 150 ft. N line, Blk. 66, Jefferies-Lambeth Subd., Porc. 89.
Perforated 2,511-22 ft.; flowing est. 10 bbls. per hour, fluid mostly salt water; Standing.

A. J. Weyel, tr. No. 1 Wood, 2,500 ft. N Rio Grande River, 2,500 ft. E line, Por. 84.
Blew out at gas sand, 2,100 ft.

Otto Wood No. 1 Guerra, Lot 35, Conroe Drlg. Co. Subd., Porc. 55.
Location.

Webb County

Austin & Vernon's No. 1 Jeffries, 150 ft. NE line, 1,170 ft. SE line, Blk. 13, Sur 1,453.
Drlg. 696 ft.

Clopton & Doffing's No. 1 Slator, center Blk. 29, Borrego grant.
Fishing 2,625 ft.

O. W. Killam No. 2 Ortiz, 660 ft. S line, 1,800 ft. E line, Sur. 1,805.
Drlg. 3,263 ft.

O. W. Killam No. 1-A Ortiz, 50 ft. N No. 1 Ortiz.
Drlg. 1,993 ft.

Mills Bennett Prod. Co. No. 1 Guerra, 330 ft. S and E lines, S½, W½, Sur. 709.
Set surface csg. at 61 ft.; W.O.C.

Arthur H. Wray No. 1 Geo. Stuempke, Share 1, Brewster pasture, Galan grant.
Rebldg. derrick pulled in while fishing.

S. S. & B. Oil Co.'s No. 6 Lone Star Co., 7,700 ft. NE line, 330 ft. SE line, Por. 12
Testing sand 654-659 ft.; T.D. 1,010 ft.

Willacy County

Kingwood Oil Co.'s No. 1 Santa Rosa, Inc., 160 ft. from E line, 637 ft. from S line of Sec. 30, Blk. 16, Share 44, San Juan de Carricitas grant.
P.B. 4,900 ft.; to perforate 4,858-87 ft.

Zavalla County

Buttram Pet. Co. No. 1 White Cotton, 2,340 ft. W line, 330 ft. N line, A.B.&M. Sur. No. 1.
Derrick.

Leona Oil Co. and Witherspoon Oil Co. No. 1 George West, 3,665 ft. N line, 330 ft. E line, C. Bustillo Sur. No. 1.
Rigging up.

Zapata County

Murt Cullinan's No. 1 Gutierrez, Blk. 4, Share 2, Fansler Partition, Comitas Grant.
Drlg. 1,443 ft.

J. W. Magee No. 1 Bruni, 330 ft. NE and SE lines, Blk. 45, Blas Uribe grant.
No report.

J. J. O'Hern's No. 1 Raymond, 330 ft. NW line, 330 ft. NE line, Blk. 5, Share E, Por. 27.
Fishing 2,720 ft.

S. W. TEXAS PROVEN

Week Ending January 18

Caesar—Bee County

Luling O. & G. Co. No. 1-D Ruhman, Blk. 22, J. M. Thurston Sur.
Drlg. 3,139 ft.

Rual Swiger No. 5 Gardner, 150 ft. E line, 450 ft. SE line, 105-ac. tract, F. Lewis Sur.
Drlg. 1,995 ft.

Sun Oil Co. No. 1 Barroum, 90 ft. N line, 330 ft. E line lease.
Comp.; 126 bbls. per day on ¼-in. choke; C.P. 625 lbs.; T.P. 375 lbs.

Dirks—Bee County

Devonian Oil Co. No. 2 Young, 660 ft. S of No. 1, O'Brien Survey.
Drlg. 2,812 ft.

Devonian Oil Co. No. 3 Young, 660 ft. N of No. 1, O'Brien Survey.
Drlg. 1,780 ft.

Illinois Pet. Co. No. 3 Rapp, 330 ft. N line, 66-ac. tract, 660 ft. W No. 2 Rapp, C. A. Dugat Sur.
Location.

Illinois Petroleum Co. No. 4 Hall, 207.75-ac. tract, T. J. Butler Sur.
Sand 3,898-3,912 ft.; set csg.; W.O.C.

Texas Co. No. 17 Young, 660 ft. NE No. 14, 180-ac. tract, Geo. Young Survey.
Sand 3,904-37 ft.; set csg.; W.O.C.

Texas Co. No. 22 Young, 1,650 ft. SE line, 330 ft. NE line, lease, T. J. Butler Survey.
Sand 3,925-59 ft.; set csg.; W.O.C.

Ray—Bee County

Simms Oil Co. No. 3 Ray, 660 ft. S No. 5 Ray, W. B. Blanchard Sur., Abst. 138.
No report.

Simms Oil Co. No. 1-B Campbell, 150 ft. S and E lines, Lot 19, Bucher Subd., W. B. Blanchard Sur.
Location.

Sun Oil Co.'s No. 3 Ray, 640 ft. W No. 2 Ray.
Rigged up.

R. J. Worthington's No. 1 Chestnut, 330 ft. NW cor. 40-ac. tract, B. O. Hadley Sur.
Spudded in; S.D.

Eckert—Bexar County

Alamo Nat. Gas Co. No. 1 Minnie Coreth, Sur. 49.
Drlg. 371 ft.

Gas Ridge—Bexar County

American Gas Co. No. 5 Oliver, Rodriguez Sur.
Standing 3,005 ft.

Von Ormy—Bexar County

Joe Dupree No. 1 Russell, 1,500 ft. SE No. 1 Coffey.
Spudded in.

R. Ingersoll No. 1 Mann, 180 ft. S line, 200 ft. E line of Survey.
No report.

B. Shadrock's No. 5 Barragan, 150 ft. S and E lines, tract.
Rigging up.

F. H. Shaver No. 2 Bitter, 300 ft. NE No. 1, Baerrera Sur.
Moving in material.

Dale—Caldwell County

Sun Oil Co. No. 1 Mieara, 330 ft. NE and SE lines, 49.5-ac. lease.
T.D. 2,328 ft.; dry and abd.

Salt Flat—Caldwell County

Dawn Oil Co. No. 1 Tiller, 37½-ac. tract.
Location.

Eagle Hill—Duval County

Marzo Oil Co. No. 2 Hagist, 480 ft. E of No. 1, Survey 6.
Cole sand 1,463-69 ft.; testing 1,414-69 ft.

W. C. McBride No. 1 Hagist, 230 ft. S and W lines, Blk. 13, sec. 267.
Drlg. 253 ft.

Government Wells Pool—Duval County

Tom Graham No. 3 Webb, 330 ft. E line, 1,320 ft. N line, 65½-ac. tract, Sur. 41.
Set sur. csg. 21 ft.; W.O.C.

Loma Novia—Duval County

Bridwell Oil Co. No. 1 Brodbeck, 330 ft. N and E lines, NW¼, Sur. 76.
Comp.; 20 bbls. per hr.; open tubing; T.D. 2,595 ft.

Rodney DeLange No. 5 B.C.C., Sur. 76.
Comp.; 240 bbls. per hr.; on ½-in. choke; T.D. 2,746 ft.

Rodney DeLange No. 6 B.C.C., Sur. 76.
Drlg. 2,735 ft.

Duval Oil Corp. No. 3-B Moody, Sur. 76.
Comp.; 15 bbls. per hr.; top sand 2,597 ft.

Duval Oil Corp. No. 5-B Moody, Sur. 76.
Drlg. 1,016 ft.

Duval Oil Corp. No. 7-B Moody, Sur. 76.
Coring sand 2,600 ft.

Duval Oil Corp. No. 8-B Moody, 330 ft. S and W lines, S½, NW¼, Sur. 76.
Comp.; 240 bbls. per day; sand 2,561-77 ft.

Duval Oil Corp. No. 10-B Moody, Sur. 76.
Completing.

Duval Oil Corp. No. 11-B Moody, Sur. 60.
Comp.; 25 bbls. per hr.; on ½-in. choke; sand 2,557-77 ft.

Gilcrease Oil Co. No. 2 McLean, SW¼, Sur. 42.
Location.

Gravis & Gilcrease Oil Co. No. 3 Byland, Blk. 2, Sur. 78.
Location.

Frank Gravis No. 4 Byland, Sur. 78.
Comp.; 30 bbls. per hr. on ½-in. choke; sand 2,594-98 ft.

C. Hamill No. 3-C Hahl, Sec. 63.
Location.

C. Hamill No. 4-C Hahl, Sec. 63.
Location.

C. Hamil's No. 9-C Hahl, SE¼, Sur. 63.
Comp.; 15 bbls. per hr. on ½-in. choke; sand 2,580-92 ft.

C. Hamill No. 11-C Hahl, 990 ft. N and E lines, Sur. 63.
Comp.; 20 bbls. per hr.; open tubing; T.D. 2,601 ft.

C. Hamill No. 2-D Hahl, 330 ft. N and W lines, NW¼, Sur. 76.
Comp.; 240 bbls. per day on ½-in. choke; T.D. 2,611 ft.

C. Hamill et al No. 3-D Hahl, Sur. 76.
Drlg. 2,617 ft.

Hamill, Smith & Ogden's No. 13 Hubbard, 330 ft. N and E lines, NE¼, SE¼ Sec. 77.
Derrick.

Hamill, Smith & Ogden's No. 14 Hubbard, 330 ft. S and E lines, NE¼, SE¼, Sec 77.
Location.

Hamill, Smith & Ogden's No. 32 Hubbard, 330 ft. SE cor SE¼ SW¼ Sur. 77.
Drlg. shale 2,425 ft.

Highland Oil Co. No. 4 B.C.C., Sec. 76.
Set csg. 2,700 ft.; W.O.C.

Highland Oil Co. No. 5 Hubbard, Sur. 72.
Comp.; 5½ bbls. per hr. on ½-in. choke, T.D. 2,582 ft.

Highland Oil Co. No. 7 Hubbard, Sur. 73.
Comp.; 75 bbls. per hr.; open tubing; sand 2,555-95 ft.

Highland Oil Co. No. 8 Hubbard, 330 ft. E line, 990 ft. N line, W½, Sur. 72.
Drlg. 2,587 ft.

Humble O. & R. Co. No. 8 Ruiz, Sur. 553.
Comp.; no gauge; sand 2,802-96 ft.

Humble Oil & Ref. Co. No. 9 Ruiz, 990 ft. W line, 1,650 ft. S line, Survey 553.
Location.

Humble Oil & Ref. Co. No. 5 Vela, 2,340 ft. E line, 330 ft. S line, N½, Survey 42.
Derrick.

Humble O. & R. Co. No. 6-A Hubbard, 1,-134 ft. W line, 330 ft. N line, Sec. 84.
Comp.; 5.46 bbls. per hr.; injection 180 lbs. gas; T.D. 2,532 ft.

Humble O. & R. Co. No. 1-B Hubbard, E½, Sur. 72.
Drlg. 1,500 ft.

Magnolia Pet. Co. No. 3 Hahl, 1,650 ft. N line, 330 ft. W line, Sur. 67.
Rigging up.

Magnolia Pet. Co. No. 13 Hahl, 640-ac. tract, Sur. 67.
Location.

Magnolia Pet. Co. No. 18 Hahl, Sur. 67.
Drlg. 1,350 ft.

Montour Prod. Co. (Lipscomb & Daubert) No. 3 Hubbard, 330 ft. S and E lines, S½, NE¼, Sur. 75.
Comp.; pumping 25 bbls. per day; T.D. 2,611 ft.

Montour Prod. Co. No. 4 Hubbard, Sur. 75.
Drlg. 624 ft.

Reynosa Oil Co. No. 1-A Mary Davison, Sur. 114.
Comp.; 360 bbls. per day on ½-in. choke.

Rosan Oil Co. No. 6 Hubbard, Sur. 84.
Sand 2,784-2,800 ft.; set csg.; W.O.C.

Russ Pet. Co. No. 4 B.C.C., Sur. 76.
Comp.; 18 bbls. per hr. on ½-in. choke; T.D. 2,587 ft.

Russ Pet. Co.'s No. 1 Duke, 330 ft. N and W lines, 40-ac. tract, Sec. 64, J. Poitevent Sur.
Location.

Reynosa Oil Co. No. 1 McLean, 330 ft. N and E lines, S½, SE¼, Sur. 62.
Drlg. 2,005 ft.

Reynosa Oil Co. No. 2-B Mary Davison, 990 ft. S and E lines, Sur. 114.
Location.

Texas Co. No. 9 B.C.C., N¼, Sur. 59.
Location.

Texas Co. No. 12 Vela, 4,290 ft. E line, 330 ft. S line, Sur. 42.
T.D. 2,614 ft.; comp.; no gauge.

Texas Co. No. 14 Vela, S½, Sur. 42.
Location.

Texas Co. No. 7 Wendt, 660 ft. E No. 2, 330 ft. N line, 458-ac. tract, Sur. 68.
Comp.; 20 bbls. per hr. on ½-in. choke; T.D. 2,679 ft.

Texas Co. No. 14 Wendt, 330 ft. S line, 4,290 ft. W line, 458-ac. tract, Sec. 68.
Comp.; shut in for potential test; T.D. 2,752 ft.

Texas Co. No. 15 Wendt, 330 ft. S line, 4,950 ft. W line, 458-ac. tract, Sec. 68.
Drlg. 60 ft.

Texas Co. No. 18 Wendt, sec. 68.
Location.

Texas Co. No. 19 Vela, Sur. 42.
Comp.; flowing in pits; no gauge.

Texas Co. No. 20 Vela, S½, Sur. 42.
Set csg. on sand; W.O.C.

Valley Osage Oil Co. No. 1 Moody, N½ SE¼, Sur. 60.
Drlg. 267 ft.

Valley Osage Oil Co. No. 1 Hubbard, W½, Sur. 75.
Location.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 4 D.C.R.C., Sur. 100.
Sand 1,954-68 ft.; comp.; 60 bbls. per day on pump.

Magnolia Pet. Co. No. 6 D.C.R.C., 2,310 ft. E line, 330 ft. S line, Sur. 100.
Drlg. 514 ft.

Sarnosa—Duval County

Magnolia Pet. Co. No. 1 D.C.R.C., Sur. 572.
Second hole; W.O.C. 2,407-12 ft.

Seven Sisters—Duval County

Atlantic O. P. Co. No. 7-A Welder, 2,310 ft. N line, 990 ft. W line, NE¼, Sur. 385.
Sand 2,503-14 ft.; W.O.C.

Atlantic Oil Prod. Co. No. 8-A Welder, NE¼, Sur. 385.
Testing 2,537 ft.

Atlantic Oil Prod. Co. No. 4-B Welder, 330 ft. S and W lines, S½ SE¼, Sur. 385.
P.B. 2,224 ft.; testing.

Atlantic O. P. Co. No. 1-C Welder, 330 ft. N and E lines, NW¼, Sec. 591.
Abd. location.

Atlantic O. P. Co. No. 2-C Welder, 120-ac. tract, Sur. 591.
Drlg. 2,257 ft.

Atlantic Oil Prod. Co. No. 4-C Welder, 120-ac. tract, Sur. 591.
Drlg. shale and sand 2,192 ft.

Buchanan & Blanco Oil Co. No. 6 Wood-Welder, 330 ft. S and E lines, E½ SW¼, Sur. 385.
Sand 2,222-37 ft.; comp.; 21 bbls. per hr. on ⅝-in. choke; C.P. 225 lbs.; T.P. 100 lbs.

Buchanan & Blanco Oil Co. No. 7 Wood-Welder, 1,650 ft. N line, 990 ft. of E line, 82.1-ac. tract, sec. 385.
Comp.; 31 bbls. per hr. on ⅝-in. choke; T.D. 2,485 ft.; C.P. 625 lbs.; T.P. 400 lbs.

Buchanan & Blanco Oil Co. No. 8 Wood-Welder, 330 ft. S and W lines, E½, SW¼, Survey 385.
Location.

Buchanan & Blanco Oil Co. No. 9 Wood-Welder, 330 ft. E line, 495 ft. S line, E½, SW¼, Sur. 385.
Skidding on.

George Coates No. 1 P. L. Telford, 330 ft. N and W lines, Sur. 386.
Drlg. 2,496 ft.

Harvey-Henderson-Dulce No. 1-A Chernosky, 1,152 ft. W line, 260 ft. S line, Sur. 226.
Drlg. 1,417 ft.

Humble O. & R. Co. No. 1 Wright, 330 ft. S and E lines, SE¼, Sur. 118.
Location.

Humble O. & R. Co. No. 5 T. D. Smith, 2,310 ft. N line, 330 ft. E line, Sur. 382.
Drlg. sandy shale and boulders 1,084 ft.

Humble Oil & Ref. Co. No. 4 Serna, 990 ft. W line, 330 ft. N line, SW¼, Sur. 384.
Comp.; cleaning in pits; T.D. 2,493 ft.

Humble O. & R. Co. No. 6 T. D. Smith, 2,300 ft. N line, 330 ft. E line, Sur. 382.
Location.

Humble O. & R. Co. No. 3-B Serna, S½, SE¼, Sur. 384.
Derrick.

Mid-Continent Pet. Co. No. 5 Serna, 990 ft. W line, 330 ft. N line, S½ N½ Sur. 384.
Comp.; 28 bbls. per hr. on ½-in. choke; sand 2,476-89 ft.

Mid-Continent Pet. Corp. No. 6 Serna, S½, N½, Sur. 384.
Drlg. 805 ft.

Navarro Oil Co. No. 1 J. F. Welder, 330 ft. E line, 2,970 ft. N line, Sur. 388.
Location.

Pan American Oil Co. No. 1 Welder, 990 ft. S and E lines, Sur. 381.
Set csg. on sand; drlg. plugs.

Richardson & Kleiner's No. 1 Welder, 990 ft. E line, 330 ft. S line, S½, NE¼, Sur. 381.
W.O. wtr. well.

Santa Clara Oil Co. (Atkins & O'Neil) No. 2 Wood-Welder, 990 ft. W line, 330 ft. N line, NW¼, Sur. 385.
Comp.; no gauge; sand 2,442-68 ft.

Santa Clara Oil Co. (Atkins & O'Neil) No. 4 Welder, 330 ft. N and W lines, NW¼, Sur. 385.
Location.

Santa Clara Oil Co. and H. H. Henderson No. 6-C Wood-Welder, 1,650 ft. W No. 4-C, Survey 381.
Sand 2,395-2,411 ft.; set csg.; W.O.C.

Shell Pet. Corp. No. 3 Welder, 660 ft. S No. 2, W½, SW¼, Sur. 385.
Skidding derrick.

Westheimer & Daube No. 2 Z. Campos, 330 ft. S and W lines, NE¼, Sur. 224.
Comp.; 25 bbls. per hr. on ⅝-in. choke; C.P. 500 lbs.; T.P. 200 lbs.; top sand 2,-672 ft.

Pearsall—Frio County

T. Davis No. 1 Halff & Oppenheimer, 339-ac. tract, J. D. Clare Sur. 336¼.
Drlg. 211 ft.

Hords Creek—Goliad County

M. I. Richardson's No. 1 Kaufan, 330 ft. NW and SW lines, 40-ac. tr.
Location.

Sun Oil Co.'s No. 1 Kaufman, 990 ft. SE line, 330 ft. SW line lease, Trevino Sur.
Location.

N. Pettus—Goliad County

Diamond Half Oil Co. No. 1 Gillette, 330 ft. NW and SW lines, 745-ac. tract, J. Gomez Survey.
Moving in material.

Southwest Darst Creek—Guadalupe

Stegal & Gallagher's No. 2 Lay, 20-ac. tr., Davis Sur.
T.D. 2,497 ft.; acidizing.

Mercedes—Hidalgo County

Union Sulphur Co. No. 1 American Rio Grande L. & I. Co., 400 ft. N and E lines, Lot 229, Blk. 59.
Flowing gas with some oil; closed in; C.P. 1,350 lbs.

Union Sulphur Co. No. 7 American Rio Grande L. & I. Co., 4,000 ft. SE of No. 1, Farm tract 2309, Blk. 59.
Drlg. 579 ft.

Samfordyce—Hidalgo County

J. H. Anderson's No. 1 Guerra, 233 ft. N line, 285 ft. W line, Tract 254, Por. 39.
Location.

J. T. Barlow No. 1 Marta Flores de Chapa, 230 ft. W line, 692 ft. S line, Tract 250, Porc. 39.
Location.

Weekly Oil Corp.'s (Cortez) No. 2-C Smith, 230 ft. from N line, 690 ft. from W line of NE 40 acres of Tract B-3, Porcion 41.
Location.

Weekly Oil Corp.'s (Cortez) No. 3-C Smith, 230 ft. from N line, 1,150 ft. from W line of NE 40 acres of Tract B-3, Porcion 41.
Location.

Ralph E. Fair, Inc.'s (Kingwood) No. 4 Guerra, 165 ft. S line, 1,150 ft. E line, Share 12, Por. 41.
Location.

Harrison, Davis & Bishop's No. 1 Guerra, 230 ft. S line, 615 ft. W line, S 40-ac., Tract 12, Por. 41.
M.I.M.

Harrison-Davis-Bishop's No. 8 Guerra, 230 ft. N line, 1,083 ft. E line, 40-ac. tract, Tract 12, Por. 41.
Set surface csg. 206 ft.; W.O.C.

Harrison-Davis-Bishop's No. 9 Guerra, 230 ft. N and W lines, 40-ac. tract, Tract 12, Por. 41.
Location.

Hill & Hill No. 2 Francisco Guerra, center NE 12.5-ac. lease, Tract 254, Porc. 40.
Set csg. 2,768 ft.; drlg. plugs.

W. F. Lacy No. 1 Felipe Farias heirs, W 10-ac. tract, Tract 255, Por. 39.
Tentative location.

W. F. Lacey's No. 1 Lula George, 75 ft. S and W lines, 5-ac. tract, Tract 13, Por. 41.
Location.

W. F. Lacey's No. 2 Lula George, 75 ft. S and W lines, 10-ac. tract, Tract 13, Por. 41.
Location.

W. F. Lacey's No. 3 Lula George, 75 ft. S line, 550 ft. W line, 10-ac. tract, Tract 13, Por. 41.
Location.

Weekly Oil Co. No. 4 Francisco Guerra, Tr. 12, Porc. 41.
Resumed drlg. 150 ft.

Sandia—Jim Wells County

J. E. Walsh No. 1 Wade, 700 ft. N line, 330 ft. E line, Lot 3, Blk. C, Lopez de Jean Grant.
Set csg. 2,931 ft.; standing.

Kingsville—Kleberg County

Fidelity & Culbertson Exploration Co.'s No. 2 Henry, Lot 2, Blk. 49.
Location.

McNeill—Live Oak County

Benco Oil Corp.'s No. 1 E. Mahoney, 165 ft. from NW line of J. H. Harvey tract, 2,199 ft. SW of highway in Mark Killelly Sur.
S.D. 78 ft.

Luray Oil Co.'s No. 1 Little, NE offset, Whittington's No. 2 Little, M. M. Shipp Sur.
Swabbing gas, water and mud from 4,-954-5,016 ft.; T.D. 5,302 ft.

J. O. Whittington's No. 4 Little, 990 ft. S and E lines, Shipp Sur.
Location.

Calliham—McMullen County

Chas. Hall No. 1 McClaugh, 1,304 ft. SW line, 935 ft. N line, 200-ac. tract, Hely Sur.
Sand 1,255-60 ft.; set csg.; W.O.C.

Luray Oil Co. No. 1 Garner, 150 ft. S Frio River, Jas. Garner Tract.
Location.

I. W. Taylor No. 1 Lark, 150 ft. S, NW cor. Blk. 56, Scrugham Sur. 973.
Location.

Baldwin—Nueces County

Houston Oil Co.'s No. 4 Baldwin, 330 ft. N and E lines 425-ac. tract, B.S.&F. Sur. No. 165.
Location.

Magnolia Pet. Co. No. 5 Baldwin, 1,981-ac. tract, Sur. 165.
Drlg. 3,947 ft.

Magnolia Pet. Co. No. 8, 660 ft. S of No. 1 Baldwin.
Derrick.

Clara Driscoll—Nueces County

Santa Clara Oil Co. (Atkins & O'Neil) No. 2 Driscoll, 4,456.2 ft. N line, 1,650 ft. E line, Wm. Gamble Sur.
Recemented at sand 3,739-74 ft.

Saxet Heights—Nueces County

J. K. Culton No. 2 Baldwin, 330 ft. N line, 330 ft. W line, Blk. 20, Villareal Survey.
Drlg. 3,329 ft.

J. K. Culton No. 2 Whelan, 330 ft. S and W lines 60-ac. tract.
Sand 4,082-4,108 ft.; set csg.; W.O.C.

J. K. Culton No. 3 Whelan, 330 ft. E line, 990 ft. S line, 60-ac. tract, Villareal Sur.
Location.

Garland Clymore No. 1 Well, 330 ft. NW and NE lines, 80-ac. tract.
Rigging up.

Tom Graham No. 1 Sam Kaler, 150 ft. S and E lines, 10-ac. tract, Villareal Sur.
Derrick.

Heep Oil Corp. No. 1 Robinson, 50.16-ac. tract, Villareal Survey.
Set surface csg. 514 ft.; W.O.C.

Marine Oil Corp. No. 1 Lynch, 330 ft. S line, midway E and W lines, tract, Villareal Survey.
Drlg. 1,823 ft.

Republic Natural Gas Co. No. 1 Baldwin, 1,128 ft. S line, 330 ft. W line, Blk. 20, Russell Farm Tracts.
Coring 3,996 ft.

Republic Nat. Gas Co. No. 2 Baldwin, 81.6-ac. tract, Blk. 20, Villareal Sur.
Digging pits.

W. A. F. Oil Co. No. 1 Edwards, 660 ft. N No. 1 Baldwin, Villareal Survey.
Drlg. 2,072 ft.

Westgate Oil Co. No. 1 Geistman, 20-ac. tract, Villareal Survey.
Derrick.

Westgate Oil Co. No. 1 Lynch, 150 ft. N line, midway E and W lines, 8.3-ac. lease, Villareal Survey.
Rigging up.

Saxet—Nueces County

Benson & Cargray No. 1 Clarkewood townsite, Blk. 1.
Set csg. 4,408 ft.; drlg. plugs.

Conservative Oil Co.'s No. 2 K. Hutchins, 330 ft. S line, 430 ft. W line, Blk. 29.
Set csg. 4,293 ft.; standing.

Tom Graham No. 1 Donigan, 330 ft. N and W lines, Sec. 7.
T.D. 4,880 ft.; testing.

Tom Graham No. 1 Flato, 330 ft. S and E lines, 30-ac. tract, Blk. 14, Sheppard Farm Lots.
Drlg. 3,414 ft.

Houston Oil Co. No. 5 Walton, 330 ft. NE line, 542.28-ac. tract, Villareal Sur.
Drlg. plugs 4,845 ft.

Houston Oil Co. No. 7 Morgan, 330 ft. N and W lines, 494.8-ac. tract, Sec. 7.
Drlg. 4,041 ft.

Houston Oil Co. No. 8 Morgan, 330 ft. N line, 967 ft. W line, 494.8-ac. tract, Sec. 7.
Location.

Houston Oil Co. No. 3 Hunter, 330 ft. S and W lines, 159.87-ac. tract, Sur. 586.
Location.

Magnolia Pet. Co. No. 2 Sanders, 330 ft. SW cor. 110-ac. tract, Sec. 165, B.S.&F. Sur.
Derrick.

L. L. Smith No. 2 Walton, section 6, Kinney Survey.
Drlg. 4,662 ft.

Southern Minerals Corp. No. 4-A Isensee, 17-ac. tract, C. Land Sur., Asbt. 975.
T.D. 3,180 ft.; drill pipe stuck.

Texon Royalty Co. No. 1 McElroy, 100 ft. N and W lines, 39.91-ac. tract, J. R. Ward Sur. No. 402.
Moving in rig.

Texon Royalty Co. No. 1 Kocurek, lease

156.53-ac. tract, J. R. Ward Survey No. 216.
Digging pits.

Plymouth—San Patricio County

Conroe Drlg. Co. No. 2-G Welder, sec. 47. Drlg. hard lime 4,740 ft.

Magnolia Pet. Co. No. 5 Corpus Christi Bank, 1,349.7-ac. tract, H. Hunter Sur. Set csg. 5,883 ft.; drlg. plugs.

Plymouth Oil Co. No. 25-C Welder, 3,016 ft. S line, 1,100 ft. W line, Sec. 71.
Running csg. 5,638 ft.

Plymouth Oil Co. No. 26-C Welder, 1,363.7 ft. W line, 3,911.7 ft. S line, sec. 71.
Comp.; I.P. 250 bbls. per day; T.D. 5,642 ft.

Plymouth Oil Co. No. 27-C Welder, 4,797 ft. S line, 1,071 ft. W line, Sec. 71.
Set csg. 5,639 ft.; W.O.C.

Plymouth Oil Co. No. 28-C Welder, 316 ft. S line, 2,325 ft. W line, Sec. 49.
Drlg. shale and lime 5,215 ft.

Plymouth Oil Co. No. 29-C Welder, 6,187 ft. S line, 1,371 ft. E line, sec. 71.
Drlg. shale and hard lime streaks 4,218 ft.

Plymouth Oil Co. No. 30-C Welder, 502 ft. S line, 3,213 ft. W line, sec. 49.
Set surface csg. 347 ft.; W.O.C.

Plymouth Oil Co. No. 31-C Welder, 7,077 ft. S line, 1,091 ft. E line, sec. 71.
Derrick.

Sun Oil Co. No. 1 Edgar, 330 ft. N and W lines, Blk. 1, Sec. 34.
Drlg. hard shale 5,949 ft.

Sun Oil Co. No. 2 Edgar, 330 ft. S and W lines, Blk. 1, sec. 34.
T.D. 5,825 ft.; sand tested S.W.

Sun Oil Co. No. 4 Hunt, 466 ft. S and W lines lease, Blk. 34, Lot 5.
Location.

Sun Oil Co. No. 5 Hunt, 1,035 ft. NE No. 4, 370 ft. Chiltipin Creek.
Sand 5,620-30 ft.; set csg.; W.O.C.

Taft Field—San Patricio County

Heep Oil Corp No. 1 Dentler, 330 ft. N and W lines, Lot 8, sec. 5, Second Addn. Farm Lands Subd.
Location.

Humble O. & R. Co. No. 1 Godwin, 330 ft. S line, 330 ft. W line, sec. 23, Taft Farm Lands, 3rd Addn.
R.U.; laying gas line.

George E. Smith No. 2 Britton, 330 ft. N line, 990 ft. W line, Blk. 8.
Drlg. shale 2,588 ft.

L. L. Smith No. 1 Thompson, 330 ft. N and W lines, Lot 5, sec. 6, Second Addn., Farm Lands Subd.
Location.

Guerra—Starr County

Sun Oil Co. No. 10-A Guerra, Las Cuevitas Sur.
S.D.; repairs 1,706 ft.

Rio Grande City—Starr County

John Clopton No. 1 Domingo Garcia, Blk. 1, Share 37-A, Por. 80.
T.D. 1,753 ft.; dry and abd.

Fech Oil Co. No. 2 Frank Doyno, 150 ft. N line, 522 ft. W line, Blk. 4, Tract 77-A, Porc. 81.
Spudded in.

Samfordyce—Starr County

Phillips Pet. Co. and Barnsdall Oil Co. No. 5 Yturria L. & L. Co., 110-ac. lease, E½, Porc. 100.
Sand 2,812-16 ft.; washing in.

Porter & Pickens No. 4-A Garcia Land & Cattle Co., on line between Blks. 4 and 5, W½ Por. 100.
Sand 2,783-85 ft.; comp.; 35 bbls. per day on ⅛-in. choke.

Porter & Pickens' No. 2-B Garcia Land & Cattle Co., 330 ft. N and W lines, 60-ac tract, NW cor. Blk. 4, Por. 100.
Location.

Porter & Pickens' No. 3-B Garcia Land & Cattle Co., 330 ft. W line, 914 ft. S line, 60-ac. tract, Blk. 5, Por. 100.
Location.

Skelly Oil Co. No. 6 Seabury, 219 ft. S line, 248 ft. E line, E 15-ac., NW 30 ac., S 263.8-ac., Tract 256, Por. 38, J. of Reynosa.
Location.

Skelly Oil Co. No. 8 Seabury, 219 ft. N line, 198 ft. W line, 12-ac. tract, Tract 256, Por. 38.
Location.

Skelly Oil Co. No. 10 Seabury, 440 ft. N line, 330 ft. E line, 24-ac. tract, Tract 256, Por. 38.
Location.

Skelly Oil Co. No. 12 Seabury, 219 ft. S and W lines, 10-ac. tract, Tract 256, Por. 38.
Tentative location.

Carolina-Texas—Webb County

Foster Barnaby No. 5 Webster, Sur. 684. (Workover); drlg. 2,973 ft.

Holland Reavis No. 1 Webster, 150 ft. S and W lines, NW¼, NE¼, Sur. 684.
Drlg. 3,311 ft.

Cole—Webb County

Cole Pet. Co. No. 93 Benavides, Block 10, Sur. 7.
Drlg. 510 ft.

Lopez—Webb County

Ivan Howard No. 1 Lopez, 330 ft. S and W lines, Sur. 2,350 ft.
Set surface csg. 45 ft.; W.O.C.

Hunter Co. No. 1 Billings, S½, NE¼, Survey 113.
Location.

Mills Bennett Prod. Co. No. 3 Garcia, Sur. 112.
Comp.; 2,187-97 ft. for 12 bbls. per hr. on ½-in. choke.

Mills Bennett Prod. Co. No. 3 Montemayor, 2,310 ft. W line, 2,042 ft. N line, Sur. 114.
Drlg. 1,833 ft.

Mills Bennett Prod. Co. No. 1 Maria Lopez, Sur. 112.
Sand 2,199-2,209 ft.; W.O.C.

Mills Bennett Prod. Co. No. 1 A. Lopez, SW cor. tract, Share 13, Tract 111.
Location.

Montour Prod. Co. No. 3 Coffey, 330 ft. N and W lines tract, Sur. 112.
Sand 2,205-11 ft.; set csg.; W.O.C.

Montour Prod. Co. No. 4 Coffey, Sur. 112.
Rigging up.

G. G. Mortimer No. 1 Billings, 330 ft. S and E lines, Sur. 7.
Location.

G. G. Mortimer No. 2 Maria Lopez, 330 ft. N and E lines lease, Sur. 112.
Location.

G. G. Mortimer No. 3 Maria Lopez, 330 ft. S and W lines lease, Sur. 112.
Location.

G. G. Mortimer No. 3 Alonzo Lopez, Sur. 113.
Comp. 18 bbls. per hr. on ½-in. choke.

G. G. Mortimer No. 6 M. Lopez, 990 ft. E line, 330 ft. S line, lease, Sur. 114.
Sand 2,181-90 ft.; W.O.C.

G. G. Mortimer No. 7 M. Lopez, 1,650 ft. E line, 330 ft. S line, lease, Sur. 114.
Location.

G. G. Mortimer No. 2 Montemayor, 990 ft. N line, 330 ft. W line lease, Sur. 114.
Location.

Sierra Oil & Royalty Co. No. 2 Billings, 330 ft. S and W lines, SW¼, SE¼, Sur. 113.
Moving in material.

Superior Oil Co. No. 1 A. S. Billings, 330 ft. S and E lines, Sur. 7.
Drlg. 1,460 ft.

Superior Oil Co. No. 3 Billings, 990 ft. E line, 990 ft. N line, Sur. 109.
Sand 2,265-77 ft.; comp.; 20 bbls. per hour.

Superior Oil Co. No. 4 Billings, Sur. 109.
Rigging up.

O'Hern—Webb County

O. W. Killam No. 44 Bruni, Sur. 536.
Drlg. 1,510 ft.

Magnolia Pet. Co. No. 27 Brennan-Benavides, cen. Blk. 396, Hale Subd., Arispe Grant.
Sand 2,757-61 ft.; set csg.; W.O.C.

Magnolia Pet. Co. No. 28 Brennan-Benavides, cen. Blk. 490, Hale Subd., Arispe Grant.
Comp.; 2 bbls. per hr. on ¼-in. choke; T.D. 2,833 ft.

Magnolia Pet. Co. No. 29 Brennan-Benavides, cen. Blk. 421, Hale Subd., Arispe Grant.
Location.

Magnolia Pet. Co. No. 30 Brennan-Benavides, cen. Blk. 464, Hale Subd., Arispe Grant.
Drlg. 550 ft.

J. J. O'Hern's No. 4 Brennan-Benavides, 347 ft. NW line, 313 ft. SW line, Blk. 190.
Location.

Texla Oil Corp. No. 1 S. Benavides, center Blk. 294, Hale Subd.
Location.

Texas Co. 10 Brennan-Benavides, cen. Blk. 462, Hale Subd.
Comp.; 12 bbls. per hr. on ¾-in. choke; sand 2,803-28 ft.

Texas Co. 11 Brennan-Benavides, Blk. 491, Hale Subd.
Drlg. 856 ft.

Texla Oil Co. No. 2-B S. Benavides, cen. Blk. 227, Hale Subd., Arispe Grant.
Sand 2,846-52 ft.; set csg.; W.O.C.

Escobas—Zapata County

S. R. C. Oil Corp.'s No. 16-A Trevino, 2,640 ft. E line, 330 ft. S line, Sur. 66.
Location.

Texas Co. No. 82 Whitehead, Cerrito-Blanco Grant.
T.D. 1,233 ft.; P.B. to 1,226 ft.; set csg.; W.O.C.

Haynes—Zapata County

Clover O. & G. Co.-James P. Nash No. 6 Haynes, Haynes Subd., Villa and Comitas grants.
Comp.; 25 bbls. per day; T.D. 857 ft.

Clover O. & G. Co. and J. P. Nash No. 7 Haynes, Blk. 7, Haynes Subd., Villa and Comitas grants.
Location.

L. C. Muckelroy No. 1 Haynes, Blk. 8, Comitas & Villa grants.
Rigging up.

South Texas Oil Co. No. 1 Fee, 330 ft. N and W lines, Blk. 21, Sur. 768.
Location.

Texas Panhandle Wildcats

Week Ending January 18

Collingsworth County

Tom Hunter et al's No. 1 Tinsley, 660 ft. from S and 1,020 ft. from E of NE¼ Sec. 8, Blk. 13, H.&G.N. Sur.
Show gas 1,860 ft.; increase at 1,875 ft.; show oil 2,090-92 ft.; T.D. 2,260 ft.; to plug back and shoot.

Gray County

Christie & Hickman No. 1 Gethings, 330 ft. from S and 990 ft. from W of SE¼ Sec. 48, Blk. A-9, H.&G.N. Sur.
T.D. 3,715 ft.; shot; putting on pump.

Harry Foster's No. 1 Johnson, 330 ft. from N and E lines of Sec. 21, L. L. Erwin Sur.
S.D. 2,338 ft.

K. Kinseya No. 1 Stephens, 330 ft. from S and E of W½ of NE¼ sec. 187, Blk. B-2, H.&G.N. Sur.
Spudded.

Plains Holding Co.'s No. 1 Morse-Gulf, 330 ft. S and W, Sec. 57, Blk. 25, H.&G.N. Sur.
Derrick.

Saulsbury Oil Co.'s No. 1 Carpenter, C NE¼ Sec. 37, Blk. 25, H.&G.N. Sur.
S.D. 2,925 ft.

Upland Oil Co. No. 1 Saunders, 300 ft. from N and E of W½ of SW¼ sec. 3, Blk. 1, B.S.&F. Sur.
Derrick.

Hall County

Davis et al's No. 1 Knorpp, 330 ft. S and W, Sec. 7, Blk. A, A.B.&M. Sur.
S.D. 530 ft.

Phillips Pet. Co.'s No. 1 Hughes, C N½ Sec. 4, Blk. H, H. Stephens Sur.
Show gas and oil 5,421-22 ft.; set csg.; S.D. 6,312 ft.

Hartley County

O. V. Beck et al's No. 1-A Matador ranch, 350 ft. from N and 385 ft. from W of most northerly NW cor. Sec. 30, Blk. 32, C.S.S. Sur.
S.D. 4,000 ft.

Hutchinson County

Phillips Pet. Co. No. 1 Bryan, 330 ft. from S and E of NE¼ sec. 6, Blk. M-21, T.C. Ry. Sur.
Location.

Power Pet. Co.'s No. 1 Hodges, 660 ft. S and E of most southerly 80 acres of S 160 acres of SE 200 acres, Sec. 16, Blk. M-35, T.C. Sur.
Rig.

Moore County

Anderson & Kerr's No. 1 Morton, 1,320 ft. from N and 2,640 ft. from E, Sec. 205, Blk. 3-T, T.&N.O. Sur.
S.D. 2,780 ft.

Anderson & Kerr's No. 1 Wilson, 660 ft. from S and E, Sec. 209, Blk. 3-T, T.& N.O. Sur.
23,700,000 ft. gas at 3,330 ft.; S.D. 3,332 ft.

Shamrock O. & G. Co. No. 1 Ryan-Jones, 400 ft. from N and 2,310 ft. from W of E½ of NW¼ sec. 190, Blk. 3-T, T.&N.O. Sur.
S.D. 705 ft.

Shamrock O. & G. Co. No. 1 L. L. Hill, 1,320 ft. from N and 330 ft. from E of NW¼ Sec. 359, Blk. 44, H.&T.C. Sur.
Drlg. 3,175 ft.; inc. gas 2,910-3,168 ft.

Wheeler County

Allender & Heare's No. 1 Harvey, 330 ft. from S and W lines of E½ of SW¼ of Sec. 67, Blk. 13, H.&G.N. Sur.
S.D. 1,900 ft.

Ben G. Barnett No. 1 Stewart, 330 ft. from N and W of N½ of SW¼, sec. 73, Blk. 13, H.&G.N. Sur.
S.D. 375 ft.

Dumar O. & G. Co. No. 1 Slavik, 330 ft. from S and E, sec. 108, Blk. 23, H.&G.N. Sur.
Machine.

Johnston et al No. 1 Rabo, 150 ft. N and W of sec. 105, Blk. 23, H.&G.N. Sur.
Cellar.

Palmer et al No. 1 Fuller, 990 ft. from N and W, sec. 71, Blk. 17, H.&G.N. Sur.
Drlg. 110 ft.

Smith Bros. No. 1 Woodward, 1,650 ft. from N and 330 ft. E of E½ sec. 33, Blk. 24, H.&G.N. Sur.
S.D. 1,735 ft.

Ochiltree County

James R. Macon's No. 1 W. R. Norris, 330 ft. S and 990 ft. E, Sec. 212, Blk. 43, H.&T.C. Sur.
Shut down.

NORTH CENTRAL TEXAS WILDCATS

Week Ending January 18

Archer County

Paul Atchley et al No. 1 Andrews, 150 ft. from S and E lines of NW 20 acres of SE¼ of sec. 1,824, T.E.&L. Sur.
Drlg. 300 ft.

Darsey and Continental No. 1 Jones, 150 ft. from N and W lines of SW¼ of sec. 1,840, T.E.&L. Sur.
Shut down 1,008 ft.; sand 970-972 ft.; estimated 3 bbls. oil per day.

Deep Oil Dev. Co. No. 10 L. F. Wilson, 990 ft. from S and 330 ft. from E lines of sec. 76, A.T.N.C.L. Sur.
Cemented 6⅝-in. csg. at 2,212 ft.; oil sand 2,212-34 ft.; drlg. plug.

Deep Oil Dev. Co. No. 11, Lease 4, L. F. Wilson, 990 ft. from S and W lines of sec. 76, A.T.N.C. Lands.
Location.

R. O. Harvey No. 1 A. B. Edwards, 330 ft. from S and 350 ft. from W lines of Lula P. Hunt Sur. A-243.
Drlg. 2,230 ft.

H. M. Kelleher et al No. 1 Abercrombie & Taylor, 150 ft. from N and W lines of S½ of NW¼ of sec. 1, S.P.R.R. Sur. A-415.
Drlg. 1,365 ft.

Wayne King et al No. 1 J. B. Frerich, 1,300 ft. from S and 1,100 ft. from W lines of sec. 43, Blk. 5, Clark & Plumb Survey.
Location.

Krahenbuhl & King No. 1 J. H. Turberville, 150 ft. from S and W lines of S 50 of E. 100 acres of Blk. 49, Harris Subdv.
Location.

Seaberry et al No. 1 Parrish Bros., 150 ft. from N and W lines of E 40 of S 80 acres of E½ of sec. 110, Wm. Sellars Sur. A-384.
Location.

Shappell Oil Co. No. 1 L. F. Wilson, 990 ft. from N and E lines of sec. 77, A.T. N.C.L. Sur.
Drlg. 500 ft.

J. B. Shira No. 1 D. L. Wolf, 150 ft. from S and E lines of Lot 56, Blk. 4, Clark & Plub Sur.
Location.

The Texas Co. No. 1 J. J. Perkins, 1,610 ft. from N and 2,020 ft. from E lines of Blk. 55, Harris Subdv.
Building derrick.

Baylor County

Hardgrave & McCulloch No. 1 Louis Hrncirik, 150 ft. from S and 1,900 ft. from E lines of sec. 5, B.B.B.&C. Sur. A-70.
Shut down 300 ft.

T. F. Hunter No. 1 Mills, 150 ft. from N and E lines of NW¼ of sec. 2,493, T.E. &L. Sur.
Drlg. 1,200 ft.

T. F. Hunter No. 1 Fayette County School land, 3,300 ft. from S and 1,300 ft. from W lines of Fayette County School Land Sur.
S.D. 668 ft.

W. P. Morris et al No. 1 C. E. Holman, 150 ft. from N and E lines of W½ of SE¼ of sec. 110, T.&N.O. Sur. A-750.
Sand with show oil 525-33 ft., and sandy shale 535-37 ft.; set 4-in. csg. at 525 ft., and is testing.

W. P. Morris et al No. 1 C. T. Porter, 1,170 ft. from N and 150 ft. from E. Edward Brown Sur.
Shut down 1,210 ft.

Cooke County

Hardin Oil Co. No. 1 J. G. Bonner, 1,350 ft. from W and 150 ft. from N, J. Lindheimer Sur.
Drlg. 950 ft.

J. F. Hart No. 1 Gwyn, 150 ft. from N and 1,320 ft. from W lines of Marshall University Sur. A-619.
S.D. 1,350 ft.

Jacob-Bell Oil Co. No. 1 B. Dudenhofer, 1,340 ft. from S and 330 ft. from W lines of Wm. A. Pledger Sur.
S.D. 2,130 ft.; casing stuck.

Lanier et al No. 1 Thetford, 1,500 ft. W and 473 ft. N of SE cor. of farm, S.P.R.R. Sur. A-987.
S.D. 400 ft. for csg.

L. A. Long et al No. 1 Sarles, 200 ft. from N and W lines of sec. 23, Hunt County School Lands, Survey A-440.
Spudded and S.D. for rotary.

J. N. Martin et al No. 1 Mrs. J. C. Talbot, 1,500 ft. from S and 900 ft. from E line, Jacob Lawson Sur., 2 miles SE of Gainesville.
Top sand 1,605 ft.; T.D. 1,615 ft.; pumped 30 bbls. in 12 hrs.; now moving in spudder to clean out.

Mills & Carey No. 1 A. M. Bezner, 150 ft. from N and W lines of J. B. Trenary Sur.
S.D. 200 ft.

C. Newburn No. 1 Dotson, 450 ft. from N and W lines of Wm. Campbell Sur. A-238.
Drlg. 320 ft.

Raye Oil Corp. No. 1 Reiter, 150 ft. from S and E lines of 106-ac. farm, G. M. Casey Sur. A-198.
Drlg. 960 ft., sand with show of oil 936-43 ft., and 944-45 ft.

W. F. Russell No. 1 Belle Payne, 2,517 ft. from N and 2,440 ft. from W lines of Marshall University Sur. A-620.
Material.

J. M. Russell et al No. 1 B. B. Bawley, 1,450 ft. from S and 150 ft. from W lines of Blk. 24, John Barnett Sur.
T.D. 300 ft.; running casing.

Sunray Oil Co. et al No. 1 A. C. McCall, 500 ft. from S and 550 ft. from W lines of W. H. White Sur., NE of Gainesville in bend of river.
T.D. 3,206 ft.; fishing drill pipe.

Woodbine Oil Co. No. 1 Potter & Potter, 150 ft. from N and E of SE cor. of G. Morris Sur., but in J. Gorham Sur.
Drlg. 500 ft.

Denton County

Burns Oil Co. No. 1 J. T. Harmon, 1,040 ft. from N and 370 ft. from W lines of lease, J. M. Moses Sur.
T.D. 2,044 ft.; fishing drill pipe.

Oil Finance Corp. No. 1 J. S. Gambill, 400 ft. from S and 550 ft. from W lines of T. Burress Sur.
S.D. 120 ft.

Foard County

Humble O. & R. Co. No. 1 Burnett, 214 ft. from N and 1,579 ft. from W lines of sec. 16, Blk. X, S.P.R.R. Sur.
Spudding.

Haskell County

Anderson & Kerr No. 1 J. F. Suey, 440 ft. from N and W lines of E½ of NE¼ of sec. 2, Blk. 3, H.&T.C. Sur.
T.D. 1,625 ft., running casing.

Jack County

Iron Mountain Oil Co. No. 1 J. W. Birdwell, 330 ft. from N and W lines of N 40 acres of farm, Geo. Hardesty Sur. A-294.
R.U., rotary.

Jackson et al No. 1 Bloodworth, 2,900 ft. from S and 1,800 ft. from W lines of most southern SW cor. of J. F. Cheairs Sur. A-149.
Location.

Nelson Oil Synd. No. 1 J. P. McCoy, 330 ft. S and E of most northerly NW cor. of A. S. Ensworth Sur.
Drlg. 1,760 ft.

Montague County

Boardman Bros. No. 1 L. Keck, 6,200 ft.

from S and 2,600 ft. from W of NE cor. of Wm. Doncho Sur.
S.D. 397 ft. for spudder.

A. Gutowsky et al No. 1 J. E. Lemmon, 150 ft. from N and 1,250 ft. from W lines of N 190 acres of Blk. 13, C. K. Hamm Sur. A-322.
T.D. 415 ft.; underreaming casing.

J. F. Hart No. 1 W. M. Talley, 1,000 ft. from SW and 200 ft. from SE, J. Perrin Sur.
T.D. 914 ft., underreaming casing.

Jim Seeds et al No. 1 Coomba, 150 ft. from N and E lines of W 80 acres of 160-ac. farm, sec. 58, M.E.P.&P. Sur.
S.D. 540 ft.

W. E. Howard No. 1 C. F. Phillips, 737 ft. from SE and 1,200 ft. from NE and SW lines of V. B. Matthews Sur.
S.D. 370 ft.

F. L. Valch No. 1 Adams, 150 ft. from N and W lines of 80-ac. farm, R. H. Grimes Sur. A-388.
T.D. 1,750 ft., cleaning out to underream casing.

M. C. Wells No. 1 Collier, 750 ft. from SW and 1,120 ft. from SE line of M. Hunt Sur., sec. 14.
Spudded and shut down for fuel.

Westqumo Co. No. 1 J. M. Willett, 480 ft. from S and 400 ft. from E lines of Blk. 4, Harriet Brown Sur.
S.D. 1,056 ft.

Throckmorton County

Ben Ashe et al No. 1 W. B. Parrott, C NW¼ of NW¼ of sec. 961, T.E.&L. Sur.
Moving in.

Ben F. Looney, Jr., No. 2 Robinson, 370 ft. from N and 1,450 ft. from W lines of sec. 1,650, T.E.&L. Sur.
Gas sand 396-412 ft.; est. 1,500,000 ft. gas daily.
T.D. 412 ft.; shut down.

Wichita County

F. W. Boardman et al No. 1 J. L. Jackson, 150 ft. from N and 900 ft. from W lines of Blk. 28, League 4, Denton County School Lands, Survey A-617.
Drlg. 200 ft.

P. H. Flynn No. 1 W. L. Scott, 450 ft. from N and 2,240 ft. from W lines of N 70 of S 130 of W 400 acres of sec. 14, Tarrant County School Land Sur. A-282.
Drlg. 1,100 ft.

Luke Hodges No. 1 J. W. Aiken, 400 ft. from N and 920 ft. from W lines of NW¼ of sec. 6, Tarrant County School Land Sur. A-282.
Location.

Wilbarger County

Franklin Oil Co. No. 1 D. G. Feller et al, 2,850 ft. from N and 1,550 ft. from W lines, sec. 108, Blk. 14, H.&T.C. Sur.
S.D. 1,520 ft.

King Royalty Co. et al No. 1-N Waggoner Est., 1,155 ft. from N and 2,145 ft. from E lines of N½ of sec. 104, Blk. 14, H.&T.C. Sur.
Spudding.

Smith No. 1 S. A. Dill et al, 150 ft. from N and E lines, sec. 82, Blk. 14, H.&T.C. Sur.
Drlg. 1,863 ft.; show oil in sand 1,849-62 ft.; tested dry.

Wise County

W. B. Hamilton No. 1 S. L. McNay, 1,320 ft. from NE and 980 ft. from SE lines of N. Ledbetter Sur.
S.D. 1,277 ft. for 5-in. csg.

Jarvis & Nix et al No. 1 Williams, 1,100 ft. from S and 1,400 ft. from E lines of Blk. 4, F.C.S.L. Sur.
S.D. 975 ft.

Young County

Banner Oil Co. No. 1 S. R. Jeffery, center of S½ of sec. 55, T.E.&L. Sur.
Drlg. 868 ft.

R. Bullock No. 1 Fee, 270 ft. S and 3,250 ft. from E lines of farm, Mary Hamilton Sur. A-138.
Location.

Carl Pet. Co. No. 1 Goss, 150 ft. from S and W lines of sec. 1592, T.E.&L. Sur.
Drlg. 859 ft.

Christie Bros. No. 1 Primitive Baptist Church, 2,394 ft. SE and 500 ft. from NE lines of S. L. Hill Sur. A-136.
T.D. 1,215 ft., running casing.

Curtis & Bracken No. 1 Allar Co., 330 ft. from N and & W lines of N 70 of S 200 acres of H. Garmes Sur. A-104.
Location.

H. J. Cox No. 1 E. A. Corbett, 650 ft. from N and 750 ft. from E lines of Ruthy Campbell Sur.
S.D. 4,245 ft.

L. V. Hull et al No. 1 A. B. Street, center of sec. 303, T.E.&L. Sur.
Location.

C. E. Knox No. 1 Washam, 200 ft. from S and W lines of Blk. 3, sec. 3,412, T. E.&L. Sur.
Location.

McLester Oil Co. No. 1 Laquey, 1,570 ft. from NW and 616 ft. from SW lines of J. Buse Sur. A-1,570.
R. U., cable tools.

Murry R. Hart No. 1 McCluskey, 930 ft. S and 960 ft. W of NW cor. of R. Campbell Sur. A-37, but in T. J. Mullinax Sur. A-1004.
R. U., cable tools.

C. D. Neff et al No. 1 W. A. Dennis, 1,530 ft. from N and 1,782 ft. from E. C. F. Boss Sur.
Show gas in sand 1,990-95 ft.; wtr. 1,995-2,000 ft.; S.D. 2,002 ft.

Pitzer & West No. 1 McCluskey, 660 ft. from N and W lines of 74-ac. tract, sec. 1164, T.E.&L. Sur. A-937.
Rig.

Pitzer & West No. 1 J. H. Boozer, 3,660 ft. from S and 1,800 ft. from E lines of sec. 1,104, T.E.&L. Sur., 150 ft. south of river.
Lime 2,600-05 ft.; hole full oil; acidized with 3,000 gals. acid; flowed 35 bbls. per hr.; cased off upper pay; lower pay 3,990-94 ft.; est. 100 bbls. per day; dry at T.D. of 4,485 ft.; in plugging back tools stuck; now drilling by.

Roberts Oil Corp. No. 1 Brogden, 330 ft. from S and W lines of farm, H. Garmes Sur. A-104.
Derrick.

WEST TEXAS WILDCATS

Week Ending January 18

Andrews County

Tippiehorn No. 2 King, 330 ft. from N and 2,310 ft. from E, sec. 11, Blk. A-44.
Standardizing 1,620 ft.

Borden County

C. E. Hyde No. 1 G. M. Dodge, 1,650 ft. from N and W, sec. 28, Blk. 33, Twp. 4n, T.&P. Sur.
Drlg. 1,360 ft.

Brewster County

F. C. Dodson No. 1 Texas American Synd., 660 ft. from N and E, sec. 66, Blk. 10, G.H.&S.A. Sur.
T.D. 1,715 ft.; R.U. on new location.

Joiner et al No. 1 McIntyre, 353 ft. from S, 2,390 ft. from E of sec. 21, Blk. 352, W. M. Mitchell Sur.
S.D. 2,150 ft.

G. H. Storey No. 1 Wilson, 1,980 ft. from N and E lines of sec. 3, Blk. 212, T.&St. L. Sur.
Elev. 3,609 ft.; S.D. 1,875 ft.

Concho County

Maverick Oil Co. No. 1 Jim Rice, 330 ft. from S and W lines of NW¼ of sec. 15, S.N. Ry. Sur.
Drlg. 1,153 ft.

John W. Westbrook No. 1 Ledbetter, 1,950 ft. from N and 2,300 ft. from E lines of sec. 2, Sur. 1,673.
Drlg. 1,800 ft.

Crane County

Big Basin Pet. Corp. No. 1 Cowdin, 330 ft. from N and 1,650 ft. from E, sec. 77, Blk. X.
Drlg. 1,922 ft.

Flaherty No. 1 E. Hughes, 2,964 ft. from S, 300 ft. from E, sec. 4, G.C.&S.F. Sur.
Drlg. 1,777 ft.; C.O.

Gulf Prod. Co. No. 1 Waddell, C NW NW sec. 4, Blk. B-27, P.S.L. Sur.
Top Simpson 6,060 ft.; T.D. 6,450 ft.; P.B. to 6,317 ft.; swbng. 65 bbls. daily.

Humble O. & R. Co. No. 1 J. B. Tubb, 980 ft. from N and 900 ft. from W lines of sec. 11, Blk. B-27, P.S.L. Sur.
S.D. 381 ft.

Moore Bros. No. 1 Barnsley, 1,320 ft. from S and W, sec. 43, Blk. 32, P.S.L. Sur.
Location.

Sinclair Prairie Oil Co. et al No. 1 Tubbs, 330 ft. from S and E, sec. 3, Blk. B-27, community test.
Drlg. 488 ft.

Crockett County

J. G. Harris No. 1 Parker, 438 ft. from S and 7,200 ft. from E, sec. 83, Blk. 1, I.&G.N. Sur.
Drlg. 1,565 ft.

Leslie-Hiller et al No. 1 Todd, 1,200 ft. N and 330 ft. E, sec. 36, Blk. WX, G.C.&S.F. Sur.
S.D. 821 ft.

John I. Moore No. 1 A. C. Hoover, 330 ft. from S and E lines of sec. 4, Blk. FF, B.&B. Sur.
Spudded and S.D.

Culberson County

Anderson-Prichard Oil Corp., Magnolia Pet. Co. et al No. 1 Borders, 1,255 ft. N and 2,305 ft. from W, sec. 24, Blk. 69, P.S.L. Sur.
Drlg. 4,682 ft.

Dawson County

Adams & Turner No. 1 John Robinson, 1,320 ft. from N line, 1,320 ft. from W line of sec. 46, Blk. M, E.L.R.R. Sur.
S.D. 4,860 ft.; U.R. 6-in. at 2,600 ft.

Ector County

W. P. Dunning, Jr. et al No. 1 Mrs. Clarence Scharbauer, 440 ft. from S and 2,200 ft. from W lines of sec. 35, Blk. 44, Twp. 1n, T.&P. Sur.
Fishing 3,875 ft.

Gulf Prod. Co. No. 2 Goldsmith, 2,200 ft. from N and 440 ft. from E lines of sec. 15, Blk. 44, Twp. 1s, T.&P. Sur.
T.D. 3,972 ft.; fishing.

Phillips Pet. Co. No. 3 Cowden, 440 ft. from N and 1,320 ft. from W, sec. 26, Blk. 44, Twp. 1s, T.&P. Sur.
Drlg. 4,157 ft.

Stanolind O. & G. Co. No. 1 J. E. Witcher, 660 ft. N and E sec. 24, Blk. 43, 2s, T. &P. Sur.
Drlg. 125 ft.

Sun and Atlantic No. 1 O. B. Holt, 1,980 ft. from S and 660 ft. from W lines of sec. 6, Blk. 43, Twp. 1n, T.&P. Sur.
S.D. 4,500 ft.

York & Harper No. 1 H. C. Foster, 660 ft. S and E, sec. 13-42-2s, T.&P. Sur.
T.D. 4,542 ft.; P.B. to 4,300 ft.; C.O. and testing.

Edwards County

Paul Texas No. 1 J. B. Stewart, 760 ft. from N and 330 ft. from W of SW¼ sec. 2, Blk. DA, G.C.&S.F. Sur.
T.D. 760 ft.; to move in rotary.

O. L. Williams' No. 1 Holman, 300 ft. from N and E, Sec. 145, C.C.S.D.&R.G.N.G. Sur.
S.D. 1,340 ft.

Fisher County

L. A. Daniels et al No. 1 J. J. Nickless, 1,700 ft. S and 2,070 ft. W of SW cor. of sec. 60, H.T.&B. Sur., but in Sub. 1, G. W. Lawrence Sur., 6 miles E of Roby.
S.D. 695 ft.

Forest Dev. Co. No. 1 A. M. Dry, 640 ft. from S and 2,000 ft. from E, sec. 108, Blk. 2, H.&T.C. Sur.
Derrick.

Gaines County

Wahlenmaier Pet. Co. et al No. 1 E. H. Jones, 660 ft. S and W, sec. 414, Blk. G, C.C.S.D.&R.G.N.G. Sur., 23 miles NW of Seminole.
Show of gas 3,330 ft.; drlg. 4,760 ft.

W. T. Walsh et al No. 1 Averitt, 330 ft. N and E lines, sec. 228, Blk. G, W.T.R.R. Sur.
Elev. 3,322 ft.; gas show 2,785 ft.; increase 2,795 ft.; increase gas 3,132 ft.; lost tools again; est. 15,000,000 ft. of gas; decreased to 4,000,000 ft.; T.D. 5,132 ft.; drlg. by tools.

Garza County

M. L. Richards No. 1 Post Estate, 1,670 ft. from N and 300 ft. from E, sec. 6, Blk. 5, K. Aycock Sur.
Drlg. 675 ft.

Glasscock County

John I. Moore et al No. 1 J. S. McDowell, 1,980 ft. from N line and 660 ft. from E line of sec. 22, Blk. 34, Twp. 2s, T.& P. Sur.
Topped lime 9,471 ft.; show oil and gas 9,484-9,520 ft.; increase oil 9,594-9,600 ft. and 9,633-55 ft.; T.D. 10,115 ft.; made 150-bbl. flow when opened on test; to deepen.

World Oil Co. No. 4-C McDowell, 330 ft. from N and E, sec. 21, Blk. 34, Twp. 2s, T.&P. Sur.
Drlg. 1,060 ft.

Howard County

Superior Oil Co. No. 1 Logan.
Drlg. 2,960 ft.

Hudspeth County

Hayman-Krupp Oil & Land Co. No. 1 Saxton, 1,464 ft. from S and 291 ft. from E, sec. 24, Blk. 74, Twp. 6, T.&P. Sur.
Drlg. 3,380 ft.

Jeff Davis County

C. M. Joiner's No. 1 Jones & Coffield, 770 ft. from N and 1,322 ft. from E, Sec. 8, Blk. 3, H.&T.C. Sur.
S.D. 2,192 ft. to test oil showing; reported cored 8 ft. of saturated sand 2,202-10 ft.

Jones County

Anderson & Richards No. 1 Ranson, 225 ft. from N and 200 ft. from E, G. B. M. Cloptar Sur. No. 244.
S.D. 900 ft.

J. N. DeMont No. 1 L. G. Roberts, 150 ft. from N and 1,287 ft. from E lines, John Casner Sur.
Drlg. 1,675 ft.

Herring et al No. 1 Cowsart, 175 ft. from N and W, sec. 42, O.A.L. Sur.
Drlg. 1,280 ft.

Hughes No. 1 Bumpass, 220 ft. from N and 1,320 ft. from W lines, T. Maltby Sur. No. 252.
Drlg. 1,400 ft.

Jamison et al No. 1 Triplett, 3,284 ft. from N and 200 ft. from E, Jasper Gocher Sur. No. 199.
Drlg. 2,020 ft.

Bob Elmore No. 1 Coton, 675 ft. from N and 2,050 ft. from W lines of SW¼, sec. 19, D.D.&A. lands, 3 miles W of Avoca.
Drlg. 700 ft.

Farris & Fikes No. 3 Jennings, 220 ft. from S and W of NE of SE¼, sec. 207, B.B.&C. Sur.
Machine R.U.

Farris & Fikes No. 1-A Jennings, 1,980 ft. from S and 150 ft. from W, sec. 1, I.& G.N. Sur.
Machine.

Shaheen et al No. 1 J. J. Steele, 660 ft. from S and 1,980 ft. from E, sec. 11, Blk. 15, T.&P. Sur.
Drlg. 1,326 ft.

Shaheen et al No. 1 T. B. McCoy, 660 ft. from N and 1,320 ft. from E of most easterly SE cor. sec. 1, Blk. 16, T.&P. Sur.
Rigged up.

Kimble County

Forrest Dev. Co.'s No. 1 Stopp, 660 ft. from N and 1,866 ft. from W, Sec. 682, Blk. N, G.H.&S.A. Sur., 18 miles SE of Junction.
Drlg. 2,800 ft.

Loving County

D. C. Evans' No. 1 W. D. Johnson, 2,310 ft. from N and 1,650 ft. from W, Sec. 12, Blk. 57, Twp. 1, T.&P. Sur.
Drlg. 2,952 ft.

Martin County

Wright & Scott No. 1 Flannigan, 330 ft. N and E, sec. 22, Blk. 37, Twp. 1s, T.&P. Sur.
S.D. 100 ft.

McCulloch County

Harris & Meyers No. 1 Brook.
T.D. 965 ft.; straightreaming.

Menard County

Wilcox O. & G. Co. No. 1 Merchenson, 330 ft. from S and W, Sec. 155, E.L.R.R. Sur., Abst. 1,840, 8 miles S of Menard.
S.D. 415 ft.

Mitchell County

Southern Union Prod. Co.'s No. 1 Castle, 330 ft. from S and E, Sec. 11, Blk. 33, Is. T.&P. Sur.
S.D. 35 ft.

Nolan County

Harris et al No. 1 Georgia Institute of Technology, 230 ft. from S and 1,320 ft. from W, sec. 89, Blk. 24, T.&P. Sur.
S.D. 200 ft.

Pecos County

Ajax Drlg. Co.'s No. 1 University, 2,310 ft. from S and W, Sec. 13, Blk. 18.
T.D. 1,765 ft.; testing.

Cardinal Oil Co. No. 1-43 White & Baker, 330 ft. from N and E, sec. 43, Blk. Z, T.C.R.R. Sur.
T.D. 1,898 ft.; P.B. to 1,666 ft.; estimated 200,000 ft. gas, 800 lbs. pressure.

Cardinal Oil Co. No. 1-44 White & Baker, 1,374 ft. from N and 175 ft. from E. sec. 44, Blk. Z, T.C. Ry. Sur.
Drlg. 555 ft.

Dobbs Oil Co. No. 1 Rooney, 990 ft. from E and 800 ft. from N, sec. 12, Blk. 126, T.&St.L. Sur.
Machine.

Tex-Mex Pet. Co.'s No. 1 Phillips-Brandenburg, 330 ft. from S and E of N half Sec. 42, Blk. 8, H.&G.N. Sur.
Drlg. 1,906 ft.

Tex Mex Pet. Co. No. 1 Lowry, 330 ft. from S and E of N½ sec. 80, Blk. 8, H.&G.N. Sur.
S.D. 770 ft.

Trans-Pecos Oil Co.'s No. 1 F. W. Popham, 1,650 ft. from S and E, Sec. 235, Blk. 11, G.H.&S.A. Sur.
Crooked hole 120 ft.

Trans-Tex. Oil Co.'s No. 1 Caldwell, 330 ft. from E line and 330 ft. from S line of Sec. 27, Blk. 40, Twp. 9, T.&P. Sur.
S.O. 3,905-4,000 ft.; 1 bailer oil in 48 hrs.; top Delaware lime 5,148 ft.; T.D 5,111 ft.

Presidio County

J. F. Sadler No. 1 J. R. Bledsoe, 2,640 ft. N and W sec. 15, Blk. 354, G.C.& S.F. Sur., 2½ miles N of Presidio.
Elev. 2,732 ft.; S.D. 922 ft.

Reagan County

Skelly Oil Co.'s No. 6 Grayson, 1,320 ft. from N and 440 ft. from W, Sec. 33, Blk. 5, University Lands.
Top pay 3,060 ft.; S.D. 3,070 ft. to acidize.

Schleicher County

John M. Cooper et al No. 1 Bert Page, 1,290 ft. from N line, 1,470 ft. from W line of sec. 40, Blk. L, G.H.&S.A. Sur.
T.D. 6,257 ft.; P.B. to 5,555 ft.; acidized; P.B. to 5,540 ft.; 13,500,000 ft. of gas when opened.

Cardinal Oil Co. et al No. 1 J. A. Whitten, 660 ft. from N and 1,980 ft. from W, sec. 35, Blk. LL, T.C. Ry. Sur.
Machine.

Cecil Rains et al No. 1 Judkins & Spencer, C SW¼ sec. 4, Blk. V-28.
Drlg. 2,360 ft.

Scurry County

Bristow & Cantrill No. 1 Shannon Est., 1,320 ft. from N and W, sec. 331, Blk. 97, H.&T.C. Sur.
Rigged up machine.

Coffield & Guthrie No. 1 Wade, 990 ft. from N and 330 ft. from W, sec. 115, Blk. 97, H.&T.C. Sur.
T.D. 3,168 ft.; P.B. to 1,900 ft.; to shoot.

G. W. Guthrie No. 1 Sorrells, 330 ft. from S and E, sec. 101, Blk. 97, H.&T.C. Sur.
Location.

Taylor County

Hightower O. & R. Co. No. 1 E. E. Sadler, 250 ft. from N and 4,400 ft. from W, in C. Cole Sur., 2 miles W of Wiley.
Fishing 1,985 ft.

Tom Green County

Mays Oil Co.'s No. 1 I. Funk, 1,980 ft. from S and 660 ft. from W, Sec. 38, Blk. 5, H.&T.C. Sur.
S.D. 1,452 ft.; P.B. to 1,025 ft.

Twin Oil Co.'s No. 1 W. E. Green, 1,650 ft. from N and 1,400 ft. from W, L. P. Moore Sur. 169½.
S.D. 315 ft.

Upton County

Cordova Union No. 1 fee, 672 ft. S of I.T.I.O. No. 1 Cordova Union, sec. 3, Blk. A.B.
T.D. 1,720 ft.; fishing.

Greencliff Oil Corp. et al No. 1 J. H. Tippett, C NE¼ sec. 58, Blk. Y, T.C. Sur.
Drlg. 761 ft.

I.T.I.O. and Foster No. 1 Cordova Union, 624 ft. W of Ray No. 1 Cordova Union, sec. 3, Blk. AB, A. E. Baxley Sur.
Drlg. 1,100 ft.

J. G. McKenzie No. 1 Taylor, 1,650 ft. from S and 330 ft. from E lines of sec. 22, Blk. B-2, G.H.&S.F. Sur.
T.D. 630 ft.

Ward County

Abell Brothers' No. 1 Lancaster Estate, 294 ft. N 20 degrees and 15 minutes W of NE cor. Sec. 61, Blk. 8, H.&G.N. Sur. in Pecos County, 5½ miles down Pecos River from NW cor. of Pecos and E. cor. of Reeves County.
T.D. 690 ft.; skidded rig 20 ft. east.

Olsen & Anderson No. 1 Yell, 330 ft. NE and SE lines of W. F. Stewart Sur., sec. 6.
T.D. 2,600 ft.; P.B. to 2,455 ft.; S.D.

C. Cochran's No. 1 K. Greene, 990 ft. from NW and 2,980 ft. from SW, Sec. 29, Blk B-29, P.S.L. Sur.
S.D. 2,100 ft.
Dobbs Oil Co. No. 1 A. F. Bray.
T.D. 2,563 ft.; T.P. 2,551 ft.; C.O.
Wahlenmaier et al's No. 1 Potts, 990 ft. from SW and 330 ft. from SE, Sec. 28, Blk. B-29.
S.D. 2,316 ft. to set casing.

Winkler County

Amerada Pet. Corp. No. 1 Daugherty, 330 ft. from S and E, sec. 35, Blk. 74, P.S.L. Sur.
Drlg. 1,010 ft.
Atlantic O. P. Co. No. 1 Lovett, 2,260 ft. from W and 2,200 ft. from S, Sec. 36, Blk. 26, P.S.L. Sur.
T.D. 3,250 ft.; P.B. 2,900 ft.; to complete for gas well.
Crafton Oil Co.'s No. 2 Pure-Walton, 1,-300 ft. N and E, Sec. 1, Blk. 3-B. Material.
Crafton Oil Co.'s No. 1 Pure-Walton, 440 ft. E and 1,320 ft. S, Sec. 2, Blk. 3-B, P.S.L. Sur.
T.D. 3,500 ft.; flowing 220 bbls. oil per day; standardizing.
Emperor Oil Co.'s No. 1 Continental-Holley, 330 ft. from S and 2,310 ft. from W, Sec. 12, Blk. B-12.
T.P. 2,704 ft.; drlg. 2,775 ft.
Gulf Prod. Co. No. 1 Hill, 440 ft. from S and 2,200 ft. from E, sec. 9, Blk. B-11.
Drlg. 1,322 ft.
Gulf Prod. Co. No. 10 Keystone, 440 ft. from E and 2,200 ft. from S, Sec. 10, Blk. B-3.
T.D. 3,279 ft.; set csg.
Gulf Prod. Co. No. 66 O'Brien.
Drlg. 1,460 ft.
R. H. Henderson No. 1 McCutchen, 2,310 ft. from S and W, sec. 16, Blk. B-3.
Derrick.
K-D Oil Co.'s No. 1 P. Mitchell, 1,650 ft from N and 2,310 ft. from E, Sec. 34 Blk. B-10, P.S.L. Sur.
Cable tools rigged up.
Magnolia Pet. Co. No. 1 State-Walton, 2,310 ft. from S and 990 ft. from E, sec. 7, Blk. B-3.
Drlg. 2,700 ft.
Magnolia Pet. Co. No. 2 Sealey, 330 ft. from S and W, Sec. 94, Blk. A.
Drlg. 3,000 ft.
Fred Hyer No. 1 Evans, 1,320 ft. from N and W, sec. 8, Blk. 56.
S.D. 80 ft.
Joiner No. 1 Evans, 1,170 ft. from N and 1,320 ft. from W, sec. 46, Blk. 73, P.S.L. Sur.
T.D. 715 ft.; C.O.
Thurman et al's No. 1 Seth Campbell 18-B-3, 330 ft. from S and 1,650 ft. from W lines of Sec. 18, Blk. B-3, P.S.L. Sur.
T.D. 3,349 ft.; pumped 127 bbls. in 24 hrs.
Cherry et al No. 1 Central State Bank of Abilene, 330 ft. from N and 2,310 ft. from E, sec. 25, Blk. 26, P.S.L. Sur.
Rotary rig.

Yoakum County

C. J. Davidson et al's No. 1 Bennett, 1,-320 ft. from N and E, Sec. 675, John H. Gibson Sur.
Elev. 3,557 ft.; T.D. 5,090 ft.; 4,000 ft. fluid in hole, mostly oil; set 6⅝-in. csg. at 4,651 ft.

LA.-ARK. WILDCATS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

Bienville Parish

DeSoto O. & G. Co. No. 1 C. R. Mower, 370 ft. S, 400 ft. W, NE cor. NW SW sec. 9-16-10.
Rigging up.
Lide & Greer No. 1 Davis Bros. Lbr. Co., 660 ft. S and W, NE cor. SE sec. 12-16-5w.
Set 16-in. 255 ft.; drlg. 2,450 ft.
Texas Seaboard Oil Co. No. 1 F. E. McGee, 660 ft. N and E center sec. 3-16-6w.
Set 16-in. csg. 258 ft.; drlg. 650 ft.

Bossier Parish

Bossier O. & G. Co. No. 3 Sherrill, 330 ft. N and W, SE cor. sec. 13-19-12.
S.D. 2,180 ft.
Geo. H. Bringhurst et al No. 1 Buckley, NE SW sec. 36-21-13.
S.D. 750 ft.
Producers O. & G. Co. No. 1 Pettitt, 330 ft. S and W, NE cor. NW sec. 17-17-11.
Reaming 5,250 ft.
Producers O. & G. Co. No. 1 Edwards, 660 ft. N and W, SE cor. sec. 27-18-11.
S.D. for fuel 360 ft.
Triangle Drlg. Co. No. 3 Skannal, Unit 50, S and W of C of NE.
S.D.; rig repair, 2,714 ft.

Caddo Parish

J. Ed Bailey, tr., No. 1 Hartzo, NW cor. NE NW sec. 28-22-16.
S.D. 2,136 ft.
Falcon Oil Co. No. 1 Glassell, 1,615 ft. N, 994 ft. E, SW cor. sec. 26-20-15.
Tested show 2,295 ft.; drlg. deeper.
Max Brandt No. 1 Hughes, SW cor. NE NW sec. 15-26-15.
Tested 500,000 ft. gas; S.D.; W.O. 2,206 ft.
Shreveport Oil Corp. No. 8-B Muslow, 1,-760 ft. E, 330 ft. N, SW cor. NW sec. 4-20-15.
Rigged up and S.D.
Ty-Stan, Inc., No. 1 Jolly, 400 ft. S and E, NW cor. SW SW sec. 22-22-15.
T.A. 2,650 ft. (corrected).

Caldwell Parish

Caldwell Drlg. Co. No. 1 Gore, 330 ft. S, 660 ft. W, NE cor. SE sec. 30-12-3e.
T.A. 765 ft.
Critchett & Woods No. 1 Kyles, NE cor. SW NE sec. 18-11-3e.
Set 8-in. csg. 1,246 ft.; T.D. 1,290 ft.
G. W. Zeigan et al No. 1 La.-Central Lbr. Co., 175 ft. S and E, NW cor. SW SW sec. 25-13-3e.
Dry and abnd. 2,003 ft.
G. W. Zeigan No. 2 La-Central Lbr. Co., sec. 19-14-3e.
Set 12-in. 164 ft.; drlg. 900 ft.

Claiborne Parish

E. T. Oakes No. 1 H. W. Patton Est., 660 ft. S and W, NE cor. sec. 1-20-5w.
S.D. 4,242 ft.
Ryan Oil Corp. No. 1 F. A. Gladney, 660 ft. S, 330 ft. E, NW cor. SE sec. 10-23-16, sec. 27-20-7.
Drill stem stuck 4,615 ft.
United Gas Public Service Co. No. 2 Durfett, 660 ft. N and 1,980 ft. E, SW cor. sec. 31-20-5.
Reaming to bottom 5,005 ft.

Concordia Parish

Zeni Oil Co. No. 1 Young, 1,200 ft. W, 100 ft. N, SE cor. sec. 28-6n-8e.
Drlg. 1,120 ft.

De Soto Parish

S. S. Alexander No. 1 G. R. Stell, 330 ft. S and W, NE cor. sec. 5-12-16.
Drlg. 4,000 ft.
E. B. Bird et al No. 1 J. H. Johns, 330 ft. N and W, C sec. 20-14-6.
Tested S.W. 2,623 ft., S.D.W.O.
Clarke & Stiller No. 1 Logan Oil Co., sec. 17-10-12.
Set 12½-in. csg. 82 ft.; drlg. 1,500 ft.
A. G. Halbach et al No. 1 Staton, 150 ft. N and E, SW cor. SE sec. 29-13-14.
Coring 2,830 ft.
Union Pet. Co. No. 1 Hill, sec. 3-10-13.
S.D. 3,400 ft.
J. L. Ryan et al No. 1 Jackson, 330 ft. N and E, SW cor. sec. 1-11-14.
S.D. 65 ft.

Grant Parish

Alexander et al No. 1 Maxwell, sec. 9-9-1e.
W.O.S.R. 1,538 ft.

Lincoln Parish

Caldwell Land & Timber Co. No. 1 J. K. Hammons, 330 ft. S and E, NW cor. SE SW sec. 30-18-1w.
Derrick.

Ouachita Parish

Interstate Nat. Gas Co. No. 39 fee, 660 ft. S and E, NW cor. NE NE.
Comp.; 1,000,000 ft. of gas, 2,189 ft.

Natchitoches Parish

Ab Jones' No. 1 Brown Lbr. Co., 400 ft. N, 330 ft. W, SE cor. Sec. 5-10-10.
S.D. 1,032 ft.
Union Petroleum Co.'s No. 1 DeBlieux, 1,395 ft. E, 150 ft. S, NW cor. Sec. 33-10-7.
Fishing for D.S. 2,850 ft.

Red River Parish

J. S. Tuffree's No. 1 Wilkinson, 1,320 ft. S and W, NE cor. Sec. 11-12-11.
S.D. 1,395 ft.

Richland Parish

J. S. Morrisey No. 1 Jones, 1,292 ft. N, 636 ft. E, SW cor. sec. 15-18-7e.
Set 10-in. 176 ft.
Arthur Wray No. 1 Slocum, 2,436 ft. S, 560 ft. W, NE cor. sec. 10-17-6e.
Set 12-in. 136 ft.

Sabine Parish

B. S. & M. Oil Co.'s No. 1 Tatum, 330 ft. S and E, NW cor. NW SE Sec. 32-8-13.
P.B. to 1,590 ft. from 2,100 ft.
W. E. Hall No. 1 Edwards, 330 ft. S and 330 ft. W of NE corner NW SE sec. 29-9-13.
Set 10-in. csg. 74 ft.; set 6-in. csg. 1,524 ft.
Geo. L. Pace No. 4 DeSoto Corp., 330 ft. S and W NE cor. SE SE sec. 27-10-13.
S.D. 1,895 ft.
Claude H. Smith No. 1 Whitney Corp., 330 ft. S, 990 ft. W, NE cor. sec. 19-10-13.
S.D. 750 ft.
Lee Whitehurst No. 1 Latham, 660 ft. N, 440 ft. W, SE cor. SW sec. 19-9-13.
Set 10-inch csg. 60 ft.; drlg. 550 ft.

Union Parish

United Carbon Co. No. 2 Stovall, 1,180 ft. S, 750 ft. E, C sec. 28-21-4e.
Comp.; 9,000,000 ft. of gas, 2,132 ft.

Vernon Parish

Llano Del Rio Co. No. 2 Gulf Lbr. Co., 1,285 ft. S, 1,000 ft. W, NE cor. sec. 7-1n-9w.
S.D. 2,310 ft.

Webster Parish

J. L. Edwards No. 1 Hooper, 330 ft. S and E, NW cor. SW sec. 8-17-9.
S.D. for D.S., 760 ft.
Lyons & Myers No. 1 Leola Brantley, 330 ft. S and E, NW cor. SW SE sec. 1-21-9.
Dry and abnd., 3,300 ft.
Ohio Oil Co. No. 1 R. L. Holloway, 660 ft. S, 760 ft. W, C Sec. 23-21-10.
Set 13⅜-inch csg. 795 ft.; drlg. 1,850 ft.

Winn Parish

Parsons et al's No. 1 Tremont Lbr. Co., 660 ft. S, 330 ft. E NW cor. SW Sec. 10-13-3w.
S.D. 1,130 ft.

EAST TEXAS

(Border Counties)

Cass County

American Liberty Oil Co.'s No. 1 J. B. Rodgers, 330 ft. N, 430 ft. W, SE cor. of 160-ac. tract in C. M. Robinson Sur.
Tested salt water 6,051 ft.; coring 6,073 ft.
R. W. Norton's No. 1 Haywood, 660 ft. N, 660 ft. W, SE cor. Priscilla Evans Sur.
Comp.; 45 bbls. per hour; 6,012 ft.
R. W. Norton No. 1 Mary Riner, John Collum Sur.
Set 13⅜-in. csg. 302 ft.; drlg. 4,203 ft.

Harrison County

R. C. Payne et al's No. 1 Lowery, H. D. Spain Sur.
P.B. to 3,524 ft.

Marion County

Ed S. Holman's No. 1 Henderson, R. Bennington Sur.
P.B. to 2,443 ft.

Panola County

George Hudson et al's No. 1 J. F. Nail, C. McGeary Sur.
Set 8-in. 40 ft.; fishing for core bbl. at 2,345 ft.
Geo. Le Grand's No. 1 P. J. Wardleigh, A. Thompson Sur.
Set 10-in. 62 ft.

ARKANSAS

Clark County

Boris Tripaneff, tr., No. 1 W. Gibbons, sec. 27-8-18.
Arranging to core ahead 550 ft.

Columbia County

Magale & Elam No. 1 L. Garrett, 330 ft. N and W, SE cor. NE SW sec. 13-17-20.
Arranging to test 3,570 ft.
Southern States Gas Co.'s No. 1 Piney Woods Lbr. Co., 330 ft. N and E, SW cor. NE NW Sec. 10-20-22.
S.D. 1,924 ft.

Hempstead County

G. L. Glass, tr., No. 1 May B. O'Bier, sec. 32-12-23.
Derrick.
F. W. Martin's No. 2 Lafferty, C NW Sec. 17-14-24.
S.D. 1,100 ft.

LaFayette County

Earl F. Fox No. 2 Coleman Bros., NE NE sec. 30-16-24.
Drlg. 1,950 ft.
Erwin & Leach No. 2 Bodcaw Lbr. Co., 330 ft. S and E, NW cor. sec. 20-16-13.
Moving in rig.
Kamon & Neely No. 1 Cockran, NW cor. SE SW sec. 26-19-25.
S.D. 4,450 ft.
Joe Modisett No. 1 Red River Lbr. Co., C SW SW sec. 21-19-14.
Drlg. 50 ft. on new hole.
Riggs Bros.' No. 1 Dubose, SE cor. SW NW Sec. 35-15-24.
Salt water and abnd. 2,836 ft.
Transportation Pet. Co.'s No. 1 Cockran, 300 ft. S and W, NE cor. SE Sec. 26-19-25.
S.D. 3,412 ft.

Miller County

M. D. K. Fitzwater's No. 1 E. H. Beck, 150 ft. N and E, SW cor. NW SW Sec. 34-15-26.
Comp.; pumping 50 bbls. 2,919 ft.
Haynes Prod. Co.'s No. 1 Embree estate, 330 ft. N and W, SE cor. SW SW sec. 9-20-28.
Dry and abnd. 6,514 ft.
King Oil Corp.'s No. 1 G. W. Crank, SW NE Sec. 19-16-25.
Arranging to test, 4,000 ft.
M. H. S. Oil Co.'s No. 2 Beck, Sec. 34-15-26.
W.O.S.R. 2,928 ft.
L. H. Mahon et al's No. 1 Miller Land & Timber Co., SW cor. SE Sec. 28-18-27.
S.D. 1,801 ft.

Monroe County

J. R. Lockhart et al's No. 1 Rue Abramson, SE cor. SE SE sec. 19-1s-1w.
Arranging to resume drlg. 3,338 ft.

Nevada County

Sneed & O'Mara No. 1 Floyd Munin, C SW Sec. 16-14-22.
Dry and abnd. 2,520 ft.

Ouachita County

Grigsby & Aarner No. 1 Burris, 330 ft. N and E, SW cor. NW NE Sec. 19-1s-19.
S.D.; W.O. 3,050 ft.
Snow-Black Pet. Co.'s No. 1 Bedford, 660 ft. N and 150 ft. E, SW cor. Sec. 32-11-18.
Derrick up on new hole.
W. B. Street, trustee's No. 1 Roth & Cartier, 330 ft. N and E, SW cor. SW NE.
Tested, show oil; drlg. deeper 1,404 ft.

Poinsett County

Rockwell Dev. Co. No. 2 W. A. Smith, 53 ft. S, 190 ft. E of center NE NE sec. 13-11n-3e.
Drlg. 1,525 ft.

Pulaski County

Base Line Oil Co. No. 1 Wilson, SW cor. NE SE sec. 28-1s-11w.
S.D. 123 ft.

Sevier County

Pendleton & Vaughn's No. 1 Dierks, C NW NE Sec. 14-10-29.
W.O.; cable tools 610 ft.

Union County

J. J. Allen No. 1 Union Sawmill, 760 ft. W, 330 ft. N, C sec. 8-17-12.
S.D.; rig repair, 2,490 ft.
Arkansas Southern Oil Co. No. 1 F. R. Laney, sec. 30-19-16.
Installing larger rig, 175 ft.
J. C. Buckbee, tr. No. 1 Sloan, 330 ft. N and E, SW cor. SE NW.
W.O.S.R. 2,160 ft.
J. E. Crosbie Inc. No. 2 Sullivant, 330 ft. W, 250 ft. S, NE cor. SE NW sec. 12-17-14.
Set 10-inch csg. 189 ft.; coring 3,157 ft.
Mrs. R. K. Jones et al No. 1 Davis, 330 ft. N and W, SE cor. NW NW sec. 28-16-14.
Arranging to test 3,297 ft.
Root Ref. Co. and G. W. James No. 1 Sullivant, sec. 12-17-14.
Drlg. 50 ft.
W. McK. Smith No. 1 Finley, 200 ft. S and E, NW cor. NE SW sec. 12-17-14.
Set 10-in. csg. 134 ft.

MISSISSIPPI

Bolivar County

White & Jones' No. 1 Ballou, SE SE NW Sec. 17-24n-7w.
S.D. 1,614 ft.

Clarke County

L. Beckwith et al's No. 1 Long Bell Lbr. Co., 538 ft. S, 125 ft. W of C Sec. 10-2n-16e.
T.A.; lack of funds.
Clarke County Oil Co.'s No. 1 Dora Butler, C SW SW Sec. 15-2n-16e.
Set 10-in. 62 ft.

Greene County

United Gas Pub. Ser. Co.'s No. 1 William Unit, 200 ft. N, 100 ft. W, C SW Sec. 6-15-5w.
Drlg. 2,550 ft.

Harrison County

Big Ridge Oil Co.'s No. 1 Hinzin, NE Sec. 13-7s-10w.
S.D.; W.O. 1,100 ft.

Lafayette County

W. L. Stewart et al's No. 1 Russell, 1,320 ft. N, 1,720 ft. E, SW cor. Sec. 9-10s-1w.
Drlg. 2,670 ft.

Lauderdale County

Bob Dalton's No. 1 Bounds, Sec. 34-7n-15e.
S.D.; W.O. 1,600 ft.

Warren County

H. W. Elliott et al's No. 2 R. L. Parker, 780 ft. E, 1,570 ft. S, NW cor. Sec. 14-14n-1e.
S.D.; W.O. 1,600 ft.

Washington County

Perkins & Dees' No. 1 Lee, 1,500 ft. E, 500 ft. N, SW cor. Sec. 33-15n-3w.
S.D. 2,175 ft.

Winston County

Jack Vale et al's No. 1 Moody, 713 ft. N, 667 ft. E, SW cor. NW SW Sec. 3-13n-14e.
Set 6-in. 2,212 ft.

ALABAMA

Houston County

Rice O. & G. Co.'s No. 1 Oakley Est., SE cor. NW SW Sec. 9-3n-29e.
S.D. 3,035 ft.

Lamar County

DeSoto O. & G. Corp.'s No. 1 Gardner, Sec. 22-15s-16w.
Drlg. 4,795 ft.

Mobile County

J. C. Prine's No. 1 C. H. M. King, N½ NE Sec. 4-1n-4w.
Drlg. 2,890 ft.

FLORIDA

Lake County

Oil Dev. Co. of Florida's No. 1 South Lake, SE SE Sec. 17-24s-25e.
Cmtd. 9⅝-in. csg. at 2,200 ft.

LA.-ARK. PROVEN

NORTH LOUISIANA

Caddo—Rodessa

Ark.-La. Gas Co. No. 7 Rodessa Oil & Land Co., 330 ft. S and W, NE cor. NW NE sec. 23-23-16.
Drlg. 4,414 ft.
Ark.-La. Gas Co. No. 6 Rodessa Oil & Land Co., 400 ft. S, 200 ft. E, NW cor. SW NW sec. 23-23-16.
Set 7-in. csg. 5,973 ft.; T.D. 5,995 ft.
Ark.-La. Gas Co.'s No. 5 Rodessa O. & Land Co., 330 ft. S, 140 ft. E, C Sec. 23-23-16.
Comp.; 20 bbls. per hour; 6,012 ft.
Bartex Pipe Line Co.'s No. 1 Norton Est., 660 ft. N and W, SE cor. NE Sec. 15-23-15.
Testing 6,011 ft.
Bartex Pipe Line Co.'s No. 1 Rodessa O. & Land Co., 660 ft. N and W, SE cor. NE SE Sec. 13-23-16.
Set 10¾-in. csg. 2,285 ft.
Bartex Pipe Line Co. No. 2 Robinson, center W½ NW SW sec. 17-23-15.
Rigging up.
Danciger & Hall's No. 1 Willis C Lot 5, Blk. 7, Sec. 23-23-16.
Drlg. 4,135 ft.
Haynes Prod. Co. No. 5 Sexton, 287 ft. S, 305 ft. W, NE cor. NW SE sec. 14-23-16.
Drlg. 5,498 ft.
Haynes Prod. Co. No. 6 Sexton, 1,651 ft. N, 1,594 ft. W of SE corner section 14-23-16.
Set 12½-inch csg. 275 ft.; set 9⅝-inch csg. 2,084 ft.; drlg. 3,863 ft.

PERSONAL

A. L. WEIL, president of the General Petroleum Corporation of California, was elected president of the California Oil and Gas Association in the recent annual election. Mr. Weil replaces C. S. JONES, president for the past two years. RALPH B. LLOYD and L. P. ST. CLAIR, vice presidents, and H. L. WESTBROOK, treasurer, were re-elected. Mr. Westbrook, treasurer of the association since 1925, is vice president of the Belridge Oil Company. F. E. FOSTER continues as managing director, and D. S. KILGOUR as assistant manager.

N. O. FANNING, New York, has just completed a business trip over Texas and returned to headquarters.

B. E. HULL of Houston, Tex., president of the Texas Pipe Line Company, returned last week from a trip to Monterrey, Mexico.

ROBERT McCRAY, sales manager Frick-Reid Supply Corporation, Tulsa, is visiting various points in West Texas and New Mexico.

THAD WYNN is now associated with the Sinclair Prairie Oil Company as scout and land man and will headquarter at Lake Charles, La.

H. C. NELSON, of Muskegon, Mich., independent operator in several Michigan oil fields, and MRS. NELSON left Monday to spend two months in Miami and St. Petersburg, Fla.

W. K. WHITEFORD, vice president and general manager, British-American Oil Producing Company, Tulsa, was in Houston, Tex., and Oklahoma City, Okla., on company business last week.

COL. W. C. JOSEY, president of the Rancho Oil Company with headquarters in Dallas, announces the opening of a branch office in the Milam Building in San Antonio, Tex., in charge of M. H. GOODE, manager of the land department, and L. B. HERRING, chief geologist. The San Antonio office will be headquarters for the Southwest Texas operations of the company.

FRANK DE WITT, local store manager Frick-Reid Supply Corporation, Fairfax, Okla., and A. A. HOPPER, local store manager Frick-Reid Supply Corporation, Bartlesville, Okla., were recent visitors in Tulsa attending sales meetings covering Beaumont Iron Works equipment. A. L. BRAINARD, president Beaumont Iron Works Company, presided at the sales meetings and is now visiting various fields in the Mid-Continent area.

H. D. McCRACKEN, vice president and superintendent for the Illinois Pipe Line Company, Fort Worth, Tex., is making a trip to Mexico. Several years ago Mr. McCracken resided in Tampico.

K. S. FERGUSON, geologist with the Shell Petroleum Corporation, has moved to San Antonio, Tex., where he assumed his duties as district geologist for Shell in that territory. Mr. Ferguson goes from Wichita Falls, Tex.

A. E. JOHNSON, of Denver, Colo., has been elected president of the Salt Creek Producers Association, Inc., and affiliated companies, to succeed T. A. DINES, who resigned the first of the year to become president of the United States National Bank. Mr. Johnson will continue as president of the New Bradford, Argo Oil and affiliated companies. Mr. Dines was associated with the original Midwest Oil Company, Midwest Refining Company, and later as a vice president of Standard Oil Company (Indiana).

VIRDEN WILSON formerly with the Phillips Petroleum Company research laboratory, is now with the Union Oil Company in Long Beach, Calif.

MR. and MRS. PAT ADAMS have returned to Lethbridge, Alberta, after a visit in California. Mr. Adams is in charge of Terminal Oil Company No. 1 on the Del Bonita structure in southern Alberta.

WILLIAM H. CURRY, JR., until recently district geologist of the Shell Petroleum Corporation at San Antonio, Tex., resigned his position effective January 15, to join the Santa Clara Oil Company of that city. Mr. Curry was with the Shell organization for eight years, going to San Antonio a year ago from Houston, Tex.

FRANK A. LOUY, JR., has been transferred to the development department of the Sinclair Refining Company at East Chicago, Ind. He was formerly on the technical staff of the Sinclair refinery at Coffeyville, Kans., and was vice chairman of the Southeast Kansas Section, American Chemical Society. The vacancy in the technical staff has been filled by J. T. COLLINS, of Cambridge, Md., graduate chemist from Randolph-Macon College. H. G. HODGE (Sinclair) succeeds Mr. Louy as vice chairman of the Southeast Kansas Section.

J. C. VICKERS, president of the Vickers Petroleum Company, is visiting in southern California.

JOHN MORAN, attorney for the Continental Oil Company at Denver, Colo., was in Casper, Wyo., recently on business.

WILLIS HARTMAN and EDWIN G. BRADLEY, oil operators of Wichita, Kan., are at San Antonio, participating in polo tournaments.

JACK PADDLEFORD, seismograph and geological scout in Kansas for the Stanolind Oil and Gas Company, announces the arrival of a baby daughter.

LAWRENCE G. STUBBS, district land man in Kansas for the Barnsdall Oil Company, is temporarily in Oklahoma City, assisting SUPT. GEORGE A. SCHWAB.

W. G. JAMES, vice president of the Eastman Oil Well Surveying Company of Texas with headquarters at Houston, has returned to his desk after a vacation in California.

T. B. SCOTT, formerly with the Standard Oil Company (New Jersey) in the New York offices, has taken up his duties with the Carter Oil Company and is now located in Tulsa.

MISS ELLEN SHAUNTY, librarian for the U. S. Bureau of Mines Experimental Station, Bartlesville, Okla., was in Tulsa to consult with MISS FLORENCE LUNDELL, librarian for the Technical Department of Tulsa Public Library this week.

WILLIAM H. CORREA, vice president of the Standard Oil Company of New York, was married to ELIZABETH BAIRD BOPE of Detroit at the First Presbyterian Church, New York City, on January 15. They are spending their honeymoon in Florida.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Arthur Knapp leaves for Trinidad, B.W.I., where he will be superintendent of production for the Trinidad Lake Petroleum Company, British concern.

S. R. Dresser, founder of the Dresser Manufacturing Co. and one of the first oil and gas well packer manufacturers, dies at his home in Bradford, Pa.

On the occasion of a birthday party for Nelson K. Moody, of Independence, Kan., general superintendent of production for the Prairie Oil & Gas Co., the guests presented him with a pair of diamond studded cuff links. Vice Pres. James E. O'Neill, of the Prairie, made the presentation speech.

20 YEARS AGO

At the beginning of the year the capitol of the Standard Oil Co., (New Jersey) was $98,338,382, with a market value of $550,694,939. It paid in 1915 dividends of $19,967,676.

The tank wagon price of gasoline in the Mississippi Valley is 16½ cents per gallon and the retail price is 18½ cents. There is no tax.

The shallowest oil sand in Oklahoma is near Dewey Washington County, topped at 70 feet, and the deepest oil wells in the state are in Blackwell, Kay County, at 3,454 feet.

Independent producers in the Gulf Coast including W. S. Farish, R. S. Sterling, T. H. Bass, and T. W. Horn of Houston and J. S. Wheless, Ed Paggi and J. R. Bordages of Beaumont, are engaged in forming the Gulf Coast Oil Producers Association for closer business relations between independent oil producers and for improving marketing conditions.

10 YEARS AGO

Withdrawal of crude oil from storage in Oklahoma and Kansas has increased to 80,000 bbls. per day.

The Miley Oil Co. No. 6 Athens, in California, total depth 7,591 feet, and the deepest oil well in the world, cost $164,128 net. Total actual drilling time 177 days.

Charles E. Hughes is chosen to represent the American Petroleum Institute before the Federal Oil Board at its open hearings on the oil situation to be held in Washington, D. C.

PARAGRAPHS

C. R. HOLLAND, engineer of the Marathon Oil Company, has been made editor of the Marathon Runner, published by the Marathon Employes Club. He succeeds R. B. COOK, who presided during 1935.

E. D. LUMAN, division geologist for the Atlantic Oil Producing Company, Tulsa, and W. E. IRWIN, purchasing agent and auditor for the Atlantic at Dallas, visited Oklahoma and Kansas oil fields last week.

L. S. ALLEN has resigned as district sales manager of the Naylor Pipe Company in the Mid-Continent to become head of the "tite-line" couplings division of the National Tank Company, headed by J. WALKER.

R. V. EVRIDGE has resigned as purchasing agent for the Rancho Oil Company, Dallas, Tex., and has taken a position with C. J. (RED) DAVIDSON, drilling contractor and independent operator, and the Rector Well Equipment Company, with offices in Fort Worth, Tex. B. H. PITMAN has been named purchasing agent for the Rancho Oil Company to fill the vacancy. Mr. Pitman was formerly with the Oriental Oil Company in Dallas.

W. N. BERCAW, with the Standard Oil Company of Indiana at Chicago, Ill., was in Casper, Wyo., recently.

C. E. PEACOCK has been placed in charge of the Texas Railroad Commission's new tender office at Palestine, Tex.

R. H. WEAVER, scout for the Sun Oil Company at Hattiesburg, Miss., is convalescing in a Dallas, Tex., hospital from an appendectomy.

B. A. PAGE, store manager Continental Supply Company, Fairfax, Okla., is being transferred to the Wichita, Kans., district office.

T. R. BANKS has resigned as district geologist in North Texas for Magnolia Petroleum Company. He will enter consulting work and will continue to live in Wichita Falls.

C. C. WARNER, Rocky Mountain division land man for the Stanolind Oil and Gas Company, has returned to Casper, Wyo., from Montana where he had been on company business.

JAMES H. SHEPARD, of the Standard Oil Company (Indiana) refinery at Casper, Wyo., has returned from Los Angeles, where he has been visiting with members of his family who are attending school there.

JOHN MacFADYEN of Casper, Wyo., vice president and manager of the western division of the Ohio Oil Company, has been visiting in the Big Horn Basin, Wyoming, looking over oil properties of the company.

L. M. KIPLINGER, cashier of the Rocky Mountain Division of the Ohio Oil Company, and N. L. BATTENSCHLAG, assistant cashier, both of Casper, Wyo., have been in St. Louis to get instructions on the company's recently inaugurated pension and annuity plan for its employes.

F. M. COTTON, general auditor of the Argo Oil Company, of Denver, Colo., is in Tulsa on business. He was accompanied by T. H. MAY and D. W. STARCK.

LLOYD SUMMERS, air lift engineer at Maracaibo Basin, in Venezuela, for Lago Petroleum Company, a Standard Oil Company of New Jersey subsidiary, is visiting in Tulsa.

M. T. RATHVON, field superintendent of the Argo Oil Company, with headquarters at Casper, Wyo., is in Oklahoma to superintend the completion of a company well in the Three Sands pool.

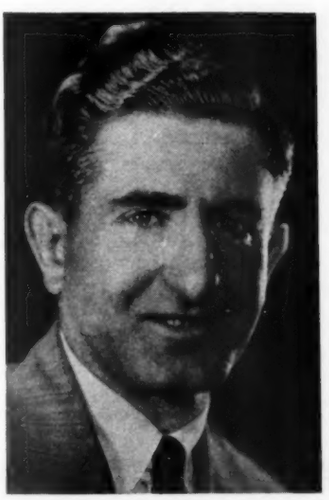
ELMER HEINZE, manager of the Fort Worth (Texas) branch of Norvell-Wilder Supply Company, spent several days in Tulsa last week. Twenty years ago he was a resident of Tulsa and after some service with the Tulsa Daily World, went to work for the Atlas Supply Company.

W. A. SCHLUETER, president of the Refiners Supply Company of Tulsa, and chairman of the Scientific and Technical Committee for the International Petroleum Exposition to be held in Tulsa in May, has left for an extended trip through Central and South American countries, accompanied by MRS. SCHLUETER. The trip is taken to permit Mr. Schlueter to recuperate from a recent illness and will be combination of vacation and business.

L. E. PHILLIPS, vice president of Phillips Petroleum Company, was one of the speakers at the North Dakota session in Fargo, and also at the Minnesota session in St. Paul of the Northwest Petroleum Association last week.

Started in Bank, But —

It looked as though Arch H. Hyden, now manager and purchasing agent for the Minnehoma Oil & Gas Company, was going to be a banker. He was headed straight in that direction, but fate, luck, the stars or whatever it is that shapes men's destinies, snatched him from the track in time. Mr. Hyden was born 43 years ago in Bridgeport, Conn. The family moved to Cleveland, which was having an oil boom. On graduating from high school, young Arch became assistant cashier of the Cleveland National Bank, passing much time in the branch bank in Osage City and studying commercial law at night.



ARCH H. HYDEN

The Cleveland Machine & Boiler Company placed him in charge of its office in 1911, and when discovery of the Bartlesville sand started another boom in Cleveland the young man kept an eye out for an opportunity to entrench himself further in the oil business. The opportunity came in 1913, when George F. Getty, of California, operating the Minnehoma Oil Company, wanted somebody to take charge of his new office in Tulsa. Arch got the place, and from that time on he acquired a varied experience in oil. He worked in the geological, land and purchasing departments, and he picked up much about production from the late J. Carl Smith, superintendent.

From 1921 to 1924 Mr. Hyden was in business for himself, dealing in oil royalties. In the latter year he returned to Minnehoma, and he has remained with the company since, coordinating its activities. He married Miss Gertrude Kalisher. They have three children and reside in Tulsa.

HAROLD S. SUTTON, assistant secretary of the Niagara Hudson Power Corporation, has resigned to become executive assistant to the chairman of the board of Consolidated Gas Company of New York.

A. M. ROUSE, of the Continental Supply Company, Hutchinson, Kans., is now store manager at the Wichita Heights store, Wichita, Kans. J. W. WILSON of Wichita Heights has been transferred to the Hutchinson, Kans., store.

L. C. ROBERTS, formerly in Stanolind Oil & Gas Company's geological department in Fort Worth, Tex., has been promoted to division geologist in the Gulf Coast division for the company and has been transferred to Houston, Tex.

F. NIESEMANN, of the research department of the Pittsburgh Equitable Meter Company, Pittsburgh, Pa., has returned from a tour in which he visited plants in England, France, Germany and other European countries operating under patents owned by the company.

MAJ. FRANK NOBLE, who has been associated with the Cities Service Oil Company, Ltd., since its inception, was recently appointed a director of the company. Major Noble was secretary to the National Fuel Oil Company from 1920 to 1927, when the company was taken over by Cities Service.

THEODORE V. PURCELL, vice president in charge of sales of the Peoples Gas Light and Coke Company, Chicago, has resigned after rounding out a half-century in the gas industry, 35 years with the Chicago company. F. X. METTENET, general sales manager of the Public Service Company of Indiana and the Northern Indiana Power Company, has been elected vice president to succeed Mr. Purcell.

Motor Fuel and Furnace Oil Quotations on East Coast Reflect Crude Advance

By C. O. WILLSON

NEW YORK, Jan. 20.—Refiners and distributors of motor fuels and furnace oils over the past week marked up their quotations to offset the higher costs of delivered crude, the latter resulting from the advances in the Mid-Continent schedules of the previous week. The general advance in tank car gasoline quotations at refineries and water terminals along the Atlantic Seaboard amounted to one-fourth to one-half cent. In New York harbor for New York and New England delivery the base tank car quotations are 6¾ cents for middle octane, 7 cents for 65 octane and above 7¼ to 7½ cents for the ethylized regular branded grades. These new schedules represent increases of one-fourth cent. Where available low octane U. S. Motor gasoline is quoted at 6½ cents. Gasoline tank car prices for New Jersey delivery which have been one-fourth cent under New York quotations were advanced one-half cent. Several companies made similar advances in their aviation gasoline and special naphthas. Prices on barge shipments of gasoline were one-fourth cent lower.

In the distributing end the major companies in New Jersey, Pennsylvania, Delaware and Atlantic Seaboard states to the south made a general advance of one-half cent in their posted dealer and station prices. In New York State and New England the amount of the advance varied depending on prices in effect previously. Sellers in most cases are endeavoring to make the changes bring their prices back to normal at sub-normal points, taking into consideration the higher tank car schedules.

In New York City an attempt is being made to end the price war situation of the previous two weeks and the retail price for regular grade gasoline was advanced to 18.5 cents including 4 cent state and 1 cent federal taxes. The advance amounted to 1.7 cents in Manhattan and Bronx, and 2.2 cents in Brooklyn and Queens. At Buffalo, long a cut price center the retail price has been advanced to 18 cents. At Boston where major distributors are said to have arrived at a new pricing basis the retail price has been reduced from 17 to 16 cents including 4 cent taxes.

In the sale of furnace oils most of refiners advanced their Nos. 2, 3 and 4 grades one-fourth cent making the new prices in New York harbor 4¼ cents for No. 4 and 4½ cents for Nos. 2 and 3. The Standard of New Jersey's new schedule follows: Essoheat (No. 2) and "Standard" distillate fuel oil, gas oil and diesel fuel oils (shore plant) 4.5 cents; No. 4 furnace oil, 4¼ cents and industrial fuel oil 4⅛ cents. The same company has advanced kerosene to 5½ cents. Most of the larger companies have met these advances on kerosene, distillate and gas oil, but it was said today that some material was available in tank car lots one-eighth to one-fourth cent under these quotations. It is assumed that these sources of supply will advance their prices to the general level before the end of the week.

The advances of the past few days in gasoline and furnace oils if they are maintained will offset the increased crude costs which range from 10 to 15 cents per barrel for coastal refiners who as a group buy all grades of pipe line oil made available at the Gulf from the Mid-Continent and Gulf Coast fields. A half-cent advance in gasoline prices at a refinery having a 60 per cent yield of gasoline from its crude, means 12.5 cents per barrel of additional revenue. The higher furnace oil prices which were predicted previous to the crude oil advance are of minor importance to most refiners.

While some of the trade are predicting still higher crude oil and refinery prices in the immediate future, a majority apparently feel that the major changes have now been made for the remainder of the winter months with the possible exception of a 10 to 15 cent per barrel increase in Bunker C and diesel oils to the marine trade. A price of $1.10 to $1.15 for Bunker C in New York harbor, not including lighterage charge, would be in line with average conditions in relation to the crude price. The present quotation is $1.05 with the demand strong at that level. The diesel fuel price to the marine trade is $1.65.

Most observers now feel that the job of all branches of the oil industry over the next 60 to 90 days is to thoroughly establish the price improvement that has been made effective since the first of the year before attempting any additional general increases. It is pointed out that the next six weeks mark the low point in gasoline consumption for the year. This means that large quantities will go to storage with sustained withdrawels from inventories probably not starting until some time in May. This is a dangerous period in which the industry in the past due to an expectation of higher price levels, has often maintained producing and refinery operations at too high levels, with resulting storage programs which became burdensome. Competent investigators have said there is danger of this development of the past repeating itself this year, despite the admitted fact that conditions are now more favorable than any time in several years.

In urging caution foreign conditions are pointed out. Over the past month, Rumania and the general European situation has become less favorable. It will be recalled that over a large part of 1935 the Rumanian refiners as a group were not a disturbing factor in European markets. This was due largely to the heavy purchases of Italy which enabled Rumanian refiners to maintain open market prices higher than the Gulf Coast quotations which are the acknowledged base prices in sales outside this country. Recently these Rumanian prices have started to tumble and they are now below the Gulf Coast schedules which as yet have not been generally advanced to reflect the higher crude costs. Rumanian kerosene has dropped to the point where the quotations are also below the 3⅞ to 4¼ cents tanker prices quoted at the Gulf for export movement.

One operator familiar with the European markets says that the slump in Rumanian prices reflects the fact that Italy has reduced its purchases. The latter development is said to be due in part to the threatened embargoes of the League of Nations countries and the fact that Italy is not in a position to make large cash purchases. Another observer says that the change in Rumanian situation has been brought about entirely by unsettled internal conditions in that country including an unstable and depreciated currency.

Several exporters have advanced their quotation on 64-66, 375 end-point gasoline for export at the Gulf to 6 cents. Other sellers feel that the going market is around 5¾ cents pointing to the Rumanian bids on European business reported since the first of the year which have been as low as 5⅝ cents. The export kerosene market is unchanged as to price with no spot business reported.

Export and domestic trading in paraffin base neutrals, bright stocks and steam refined stocks is light and the few price changes reported have been on the down side. No. 8 Pennsylvania bright stock in barrels for export is now quoted at 26 cents and 200-3 color neutral, 29 cents. The demand for crude scale wax is fair but not sufficient to justify higher prices according to sellers. Export demand was reported dull.

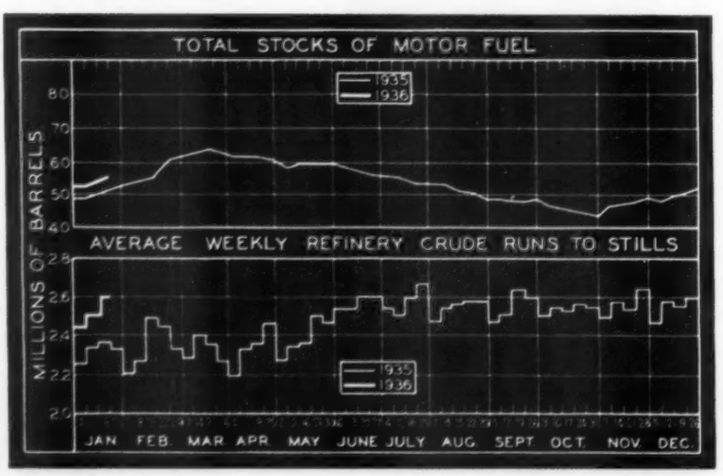
A. P. I. Weekly Refinery Statistics

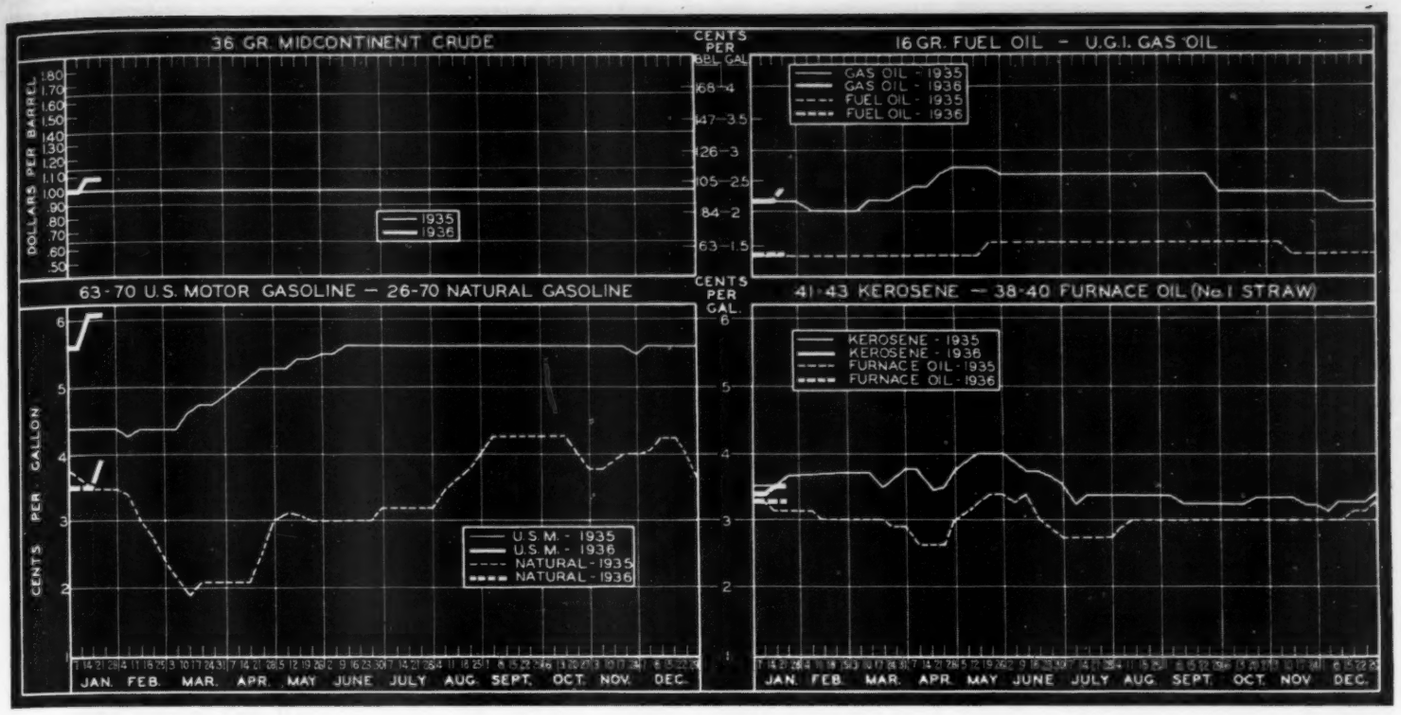
Week Ending January 18, 1936

	Capacity reporting per cent	Daily crude runs (bbls.)	Total gasoline (bbls.)	Gas oil and fuel oil (bbls.)
East Coast	100.0	436,000	13,909,000	8,281,000
Appalachian	94.8	98,000	2,396,000	800,000
Indiana, Illinois, Kentucky	95.9	372,000	9,234,000	3,281,000
Oklahoma, Kansas, Missouri	84.8	272,000	6,208,000	4,345,000
Inland Texas	48.5	102,000	1,302,000	1,479,000
Texas Gulf	96.8	581,000	7,161,000	9,674,000
Louisiana Gulf	96.4	122,000	1,498,000	4,107,000
North Louisiana and Arkansas	90.0	46,000	344,000	607,000
Rocky Mountains	61.9	44,000	1,060,000	752,000
California	92.6	531,000	11,990,000	68,784,000
Total United States	89.6	2,604,000	55,102,000	102,110,000

Stocks (barrels)—	Jan. 18, 1936	Jan. 19, 1935
Finished gasoline	49,037,000	46,995,000
Unfinished gasoline	6,065,000	5,096,000

NOTE: In addition to the above are stocks classified as "Stocks of Other Motor Fuel." These stocks total around 5,500,000 bbls., but show only minor changes and are not included in this weekly summary.




36 GR. MIDCONTINENT CRUDE
DOLLARS PER BARREL
1935
1936
CENTS PER BBL GAL
16 GR. FUEL OIL - U.G.I. GAS OIL
GAS OIL - 1935
GAS OIL - 1936
FUEL OIL - 1935
FUEL OIL - 1936
63-70 U.S. MOTOR GASOLINE — 26-70 NATURAL GASOLINE
CENTS PER GALLON
U.S.M. - 1935
U.S.M. - 1936
NATURAL - 1935
NATURAL - 1936
CENTS PER GAL.
41-43 KEROSENE — 38-40 FURNACE OIL (No. 1 STRAW)
KEROSENE - 1935
KEROSENE - 1936
FURNACE OIL - 1935
FURNACE OIL - 1936
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

Prices of Natural Gasoline in Group 3 Jump as Stripper Plants Shut Down

By T. F. SMILEY

Natural gasoline prices rose swiftly following the dissolution Tuesday of this week by the Federal District Court in Dallas, Tex., of injunctions under which stripper operations were being carried on in the Texas Panhandle. The injunctions had been granted against enforcement of the state's gas conservation law, which went into effect last August, pending a decision on the constitutionality of the law. That decision has not been handed down, and the three companies whose injunction cases came up for hearing Tuesday, upon being denied further continuances, allowed the injunctions to be dissolved rather than to proceed with litigation regarding the outcome of which they had doubts.

Other Companies to Follow

Other companies whose injunction hearings are pending are expected to follow the same course, with the result that a volume of natural gasoline variously estimated at 200,000 to 250,000 gallons daily will be taken off the market within a few weeks. The prospective tightening of supplies sent the tankcar prices of the different grades up three-eighths to five-eighths cent in Oklahoma, with further increases regarded as likely as scarcity of material becomes more apparent.

The 18-pound material broke away this week from the formula which fixes its price at 20 per cent above that of the 26-70 grade. It was said in explanation that little of it was being made.

Further adjustment of the gasoline price structure was made in the last week, bringing it more closely in harmony with the recent increases in crude prices and the half-cent advance in Group 3 tankcar prices. Magnolia Petroleum Co. and Continental Oil Co., recognized as the retail price-setters in Oklahoma, raised their pump prices in that state 1 cent Friday. The other integrated companies took similar action, and independent dealers fell into line Monday. On Friday Standard Oil Co. (Indiana) moved up its tank-wagon and service-station prices a half-cent.

Belief was expressed by some observers that the higher prices for crude and the increased tankcar and retail prices for gasoline had imparted a somewhat firmer tone to the market—to gasoline particularly, but in a degree to the whole list—although any such improvement was not manifested in sustained activity. Buyers, it was pointed out, may have their doubts about prices going still higher in the near future, but most of them seem pretty well convinced they will go no lower. This state of mind on the part of the jobber, it was reasoned, should serve as a mild stimulus to buying of gasoline. And as a matter of fact there really was a bulge in instructions on contracts for a few days following the announcement of higher crude postings, some jobbers even trying to get more than their contracts stipulated. Notwithstanding theorizing concerning probable effects of the higher prices, however, reports of actual transactions indicate spot business has shown little if any expansion. Most jobber stocks are said to be low, but the jobbers are evincing little worry about replenishing them, according to refinery sales managers.

Advance Raises Question

Following the increase of a half-cent in tankcar prices for gasoline, the retail prices were moved up a cent in Oklahoma. The question was raised by some as to whether it was wise to increase the spread previously existing between the tankcar and pump prices. Those who oppose the whole system of marginal contracts point out that this widened disparity increases the room for price-cutting among dealers with a penchant for resorting to that method of boosting gallonage and broadens the opportunity for secret agreements.

Reports from throughout the Mid-Continent area indicated there was no refinery stocks of gasoline in urgent need of outlets. In fact, one of the particularly gratifying conditions attending the market as it turned into the new year was the low inventories of small independent refiners who in other years accumulated unwieldy stocks as soon as the season of heavy summer and fall demand ended.

Notwithstanding the wintry weather which swept over much of Group 3's consuming area, furnace oil showed little life. Neutrals and bright stocks were steady at unchanged prices. Wax was strong and scarce.

Refined Oil Market Barometer

Strengthening of the refined oil market accompanied the general advance of crude oil prices east of the Rockies and of tankcar and retail prices of gasoline in most areas. Belief is growing that with sounder marketing practices gaining ground there may be no marked drop in gasoline prices before the spring pickup in consumption arrives.

MID-CONTINENT. Gasoline up. Naturals rise sharply. Lubricants and furnace oils steady.

EAST COAST. Gasoline higher. Furnace oils, gas oils and industrial fuels stronger.

GULF COAST. Refinery markets stronger, with upward trend in quotations.

PENNSYLVANIA. Kerosene up another eighth. Heavy fuels draggy.

CALIFORNIA. Gasoline soft. Natural weaker. Diesel and gas oils slow.

CHICAGO. Gasoline easy. Furnace oils and kerosene slightly firmer.

RETAIL OIL MARKETS

Tank wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of January 21, 1936

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank wagon or 3 cents a gallon off retail prices is permitted for purchases between 4,000 and 10,000 gallons per month, or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Chicago	14.5	16.5	4.0	9.8
Decatur, Ill.	16.0	17.0	4.0	9.8
E. St. Louis	15.7	17.7	4.0	9.5
Joliet	16.0	16.5	4.0	9.8
Peoria	16.0	16.0	4.0	9.8
Quincy	16.8	17.8	4.0	8.0
Davenport, Ia.	16.0	(†)	4.0	9.8
Des Moines	15.8	(†)	4.0	9.6
Mason City	16.2	(†)	4.0	10.0
Sioux City	16.0	(†)	4.0	9.8
Duluth, Minn.	16.8	18.8	4.0	10.6
Mankato	16.4	18.4	4.0	10.2
Minneapolis	16.4	18.4	4.0	10.2
LaCrosse, Wis.	17.4	19.4	5.0	10.2
Green Bay	17.7	19.7	5.0	10.5
Milwaukee	15.8	17.8	5.0	10.1
Madison	17.4	19.4	5.0	10.2
Detroit, Mich.	14.0	16.0	4.0	9.3
Grand Rapids	16.4	18.4	4.0	8.0
Saginaw	16.6	18.6	4.0	9.3
Evansville, Ind.	17.7	19.7	5.0	10.3
Indianapolis	17.9	19.9	5.0	10.5
South Bend	18.1	20.1	5.0	8.0
Fargo, N. Dak.	17.4	19.4	4.0	11.2
Huron, S. Dak.	17.9	19.9	5.0	8.5
Sioux Falls	17.4	19.4	5.0	8.0
Kans. City, Mo.*	15.4	17.4	4.0	7.0
Springfield	15.1	17.1	4.0	8.9
St. Louis	15.7	17.7	3.5	9.5
St. Joseph*	15.4	17.4	4.0	8.2
Wichita, Kans.	14.9	16.9	4.0	6.8
Bartlesville, Ok.	16.5	18.5	5.0	8.5

*State tax 2 cents, 1-cent city tax and 1-cent federal tax.

†Standard Oil Co. (Indiana) has leased all service stations in Iowa.

Discounts to dealers: Undivided accounts, 1½ cents on premium and regular and 2¼ cents on third grade off service station prices; divided accounts one-half cent less than undivided. Discounts to dealers in metropolitan Chicago one-half cent larger than rest of Standard of Indiana territory, namely 4 cents and 3 cents on respective grades. Where prices are more than 1 cent below normal, the discounts are one-half cent less than above.

Stanolex Furnace Oil in Chicago

Effective June 27, 1935, f.o.b. Chicago tank wagon prices: Range oil, less than 100 gallons, 8.5 cents; 100-149 gallons, 7.5 cents; 150 gallons and more, 7 cents. No. 1 (36-40 lt. stw. zero), less than 100 gallons, 8.5 cents; 100-149 gallons, 7.5 cents; 150 gallons or more, 7 cents; No. 2 (30-34 stw. zero), same prices and quantities as No. 1; No. 3 (22-26 zero), less than 150 gallons, 7.2 cents; 150 gallons or more, 6.2 cents; No. 4 (12-16 zero), less than 400 gallons, 7.2 cents; 400 gallons or more, 6.2 cents, viscosity of No. 4, 35° and 100° F.; No. 5, less than 400 gallons, 5½ cents; 400 gallons or more, 4½ cents.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Denver, Colo.	19.0	21.0	5.0	11.0
Pueblo	19.0	21.0	5.0	13.0
Grand Junction	21.5	23.5	5.0	15.0
Casper, Wyo.	19.5	21.5	5.0	11.5
Cheyenne	19.5	21.5	5.0	13.0
Butte, Mont.	22.0	24.0	6.0	17.5
Billings	20.5	22.5	6.0	16.5
Helena	22.5	24.5	6.0	17.5
Great Falls	21.5	23.5	6.0	17.5
Salt Lake, Utah	16.0	18.0	5.0	16.0
Twin Falls, Ida.	23.0	25.0	6.0	18.0
Boise	22.5	24.5	6.0	18.0
Albu'que, N. M.	21.0	23.0	*6.5	13.0

*One-half cent city tax.

Discount to dealers with or without contract in Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 2½ cents.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Atlanta, Ga.	21.0	23.0	7.0	*12.0
Augusta	20.5	22.5	7.0	*12.0
Macon	20.5	22.5	7.0	*13.0
Savannah	18.5	20.5	7.0	12.0
Birm'ham, Ala.	21.5	23.5	8.0	11.0
Mobile	19.5	21.5	8.0	12.0
Montgomery	22.0	24.0	9.0	15.5
Jackson, Miss.	19.25	21.0	7.0	*11.0
Vicksburg	18.25	19.5	7.0	*12.0
Jacksonville, Fla.	19.0	21.0	8.0	10.0
Miami	19.0	21.0	8.0	13.5
Pensacola	21.0	23.0	8.0	11.5
Tampa	19.0	21.0	9.0	10.0
Lexington, Ky.	19.5	21.5	6.0	11.0
Covington	18.0	20.0	6.0	10.5
Louisville	18.5	20.5	6.0	10.0
Paducah	15.5	16.0	6.0	8.0

*Includes 1 cent state tax in addition to the state tax of 6 cents. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, and 1 cent per gallon on kerosene. Mobile and Birmingham, Ala., each have a city gasoline tax of 1 cent per gallon. Pensacola, Fla., has a city gasoline tax of 1 cent.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Dallas, Tex.	14.0	15.0	5.0	7.0
Fort Worth	14.0	15.0	5.0	7.0
Houston	15.0	19.0	5.0	8.0
San Antonio	15.0	19.0	5.0	8.0
El Paso	17.0	21.0	5.0	10.0
Muskogee, Ok.	17.0	19.0	5.0	7.0
Okla. City	17.0	19.0	5.0	8.0
Tulsa	17.0	19.0	5.0	8.0
Ft. Smith, Ark.	15.5	19.0	5.0	8.0
Little Rock	15.0	21.5	7.5	9.5
Texarkana	14.5	18.5	5.0	8.0

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Atl'tic City, N.J.	14.3	17.8	4.0	9.0
Newark	14.3	17.8	4.0	7.5
Annapolis, Md.	15.6	19.1	5.0	10.0
Baltimore	15.0	18.5	5.0	7.5
Cumberland	16.6	20.1	5.0	12.7
Wash'g'n, D. C.	13.0	16.5	3.0	9.0
Danville, Va.	17.5	21.0	6.0	12.9
Norfolk	16.0	19.5	6.0	11.3
Petersburg	16.5	20.0	6.0	11.7
Richmond	16.5	20.0	6.0	11.7
Roanoke	17.5	21.0	6.0	12.9
Charles'n, W.Va.	15.8	19.3	5.0	12.6
Parkersburg	15.1	18.6	5.0	11.2
Wheeling	16.0	19.5	5.0	12.2
Charlotte, N. C.	18.7	22.2	7.0	12.9
Hickory	19.0	22.5	7.0	13.1
Mt. Airy	19.0	22.5	7.0	13.2
Raleigh	18.4	21.9	7.0	12.7
Salisbury	18.8	22.3	7.0	13.0
Charleston, S. C.	17.0	20.5	7.0	11.2
Columbia	18.2	21.8	7.0	12.6
Spartanburg	18.7	22.2	7.0	12.9

Tank wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Omaha	18.4	20.4	6.0	10.1
McCook	19.1	21.1	6.0	9.0
Norfolk	18.8	20.8	6.0	10.5
North Platte	19.2	21.2	6.0	10.9
Scottsbluff	19.9	21.9	6.0	11.6

Note: Discounts to dealers: where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 2½ cents; Standard Red Crown, 3½ cents; Red Crown Ethyl, 3½ cents.

Where service station gasoline prices are below normal resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 2 cents; Standard Red Crown, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank wagon deliveries covered only by Standard Commercial Consumers Contract, effective January 1, 1935.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Ohio points	17.5	19.5	5.0	*12.5

*Includes state tax of 1 cent.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Philadelphia, Pa.	16.5	18.5	5.0	9.0
Pittsburgh	17.0	19.0	5.0	10.0
Allentown	16.5	18.5	5.0	9.0
Erie	16.0	18.0	5.0	8.0
Scranton	16.5	18.5	5.0	10.0
Altoona	17.0	19.0	5.0	9.0
Dover, Del.	16.5	18.5	5.0	10.0
Wilmington	16.0	18.0	5.0	9.0
Springf'd, Mass.	13.5	17.0	4.0	7.5
Worcester	13.5	15.0	4.0	7.5
New Haven	14.0	17.5	4.0	7.5
Providence, R. I.	12.5	16.0	3.0	7.25

Note—Tank wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
N. Orleans, La.	19.0	22.5	‡9.0	†12.0
Baton Rouge	17.0	20.5	‡7.0	11.5
Alexandria	18.0	21.5	‡*8.0	10.5
Lafayette	18.5	22.0	‡*8.0	12.5
Lake Charles	18.5	22.0	‡*8.0	10.0
Shreveport	16.5	20.0	‡7.0	9.0
Knoxville, Tenn.	20.5	24.0	8.0	14.0
Memphis	18.5	22.0	8.0	9.5
Chattanooga	20.0	23.5	8.0	11.5
Nashville	19.5	23.0	8.0	10.0
Bristol	18.35	21.1	8.0	14.5

*Includes city tax of 1 cent.

†Includes 1-cent parish tax. ‡Includes 3-cent parish tax.

Tank wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at dealer price less one-half cent.

Louisiana kerosene prices include 1-cent state tax.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero.
	Post deal	Serv. sta.	Inc. tax	tank wag.
Albany, N. Y.	15.0	18.5	5.0	7.75
*Met. N. Y.:				
Manhtn., Bronx	15.0	18.5	5.0	7.25
Staten Island	15.0	18.5	5.0	7.25
Qu'ns & Br'klyn	15.0	18.5	5.0	7.25
Buffalo	14.5	18.0	5.0	8.0
Rochester	16.5	17.5	5.0	8.0
Syracuse	15.0	18.5	5.0	8.5
Boston, Mass.	12.5	16.0	4.0	7.5
Portland, Me.	15.5	19.5	5.0	7.75
Manch'ter, N. H	15.0	18.5	5.0	8.0
Burlington, Vt.	17.0	20 5	5.0	8.75
Hartford, Conn.	14.0	17.5	4.0	7.0

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
San Francisco	14.0	16.0	4.0	11.5
Los Angeles	11.5	13.5	4.0	10.5
Fresno, Calif.	14.5	16.5	4.0	9.0
Phoenix, Ariz.	18.0	20.0	6.0	‡16.0
Reno, Nev.	17.0	19.0	5.0	13.0
Portland, Ore.	16.5	18.5	6.0	13.5
Seattle, Wash.	16.5	18.5	6.0	13.5
Tacoma	16.5	18.5	6.0	13.5
Spokane	19.5	21.5	6.0	16.5

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where discount is 1 cent.

‡Includes 5-cent state tax.

Canada*

Imperial 3-Star Gasoline

IMPERIAL OIL, LTD.

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Hamilton, Ont.	20.0	22.5	6.0	16.5
Toronto, Ont.	20.0	22.5	6.0	16.5
Brandon, Man.	30.3	33.3	7.0	21.8
Winnipeg, Man.	28.7	31.7,	7.0	20.2
Regina, Sask.	30.0	33.0	7.0	21.5
Saskatoon, Sask.	32.8	35.8	7.0	24.3
Edmonton, Alta.	32.2	35.2	7.0	23.7
Calgary, Alta.	29.5	32.5	7.0	21.0
Vancouver, B. C.	26.0	29.0	7.0	24.0
Montreal, Que.	17.5	20.0	6.0	17.0
St. John, N. B.	25.0	29.0	8.0	19.5
Halifax, N. S.	25.0	29.0	8.0	19.5

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal where discounts below station price are one-half cent per gallon less.

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 2-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Retail Price Changes

Standard Oil Co. (Indiana) January 17 advanced tank wagon and station gasoline .5 cent at all points in 10 states.

Continental Oil Co. January 17 advanced tank wagon and station gasoline 1 cent at points in Montana and Wyoming.

Standard Oil Co. of New Jersey January 16 advanced tank wagon and station gasoline .5 cent at all points except in Danville and Norfolk where an advance of .6 cent was posted, in Richmond where a .7-cent advance was posted and in Petersburg and Roanoke where an advance of .4 cent was made.

Standard Oil Co. of Nebraska January 17 advanced tank wagon and station gasoline .5 cent at all Nebraska points.

Standard Oil Co. of Louisiana January 2 reduced tank wagon kerosene 1 cent in Lake Charles.

Imperial Oil, Ltd., January 15 reduced tank wagon gasoline 1 cent in St. John and Halifax.

Socony-Vacuum Oil Co., Inc., January 13 advanced posted dealer gasoline 1 cent and station gasoline 2 cents in Buffalo; January 16 advanced posted dealer and station gasoline .5 cent in Albany and reduced posted dealer and station gasoline 1 cent in Boston; January 20 posted dealer and station gasoline were advanced .5 cent in Burlington and on the same date advanced posted dealer gasoline .5 cent and station gasoline 1 cent in Portland; advanced posted dealer .95 cent and station price 1.7 cents in Manhattan and Bronx, reduced posted dealer .05 cent and advanced station gasoline .5 cent in Staten Island, and advanced posted dealer 1.2 cents and station gasoline 2.5 cents in Queens and Brooklyn.

Magnolia Petroleum Co. January 14 advanced tank wagon and station gasoline 1 cent in Texarkana; January 17 advanced tank wagon and station gasoline 1 cent at all Oklahoma points and .5 cent in Fort Smith and Little Rock.

Standard Oil Co. of Ohio January 15 advanced tank wagon and station gasoline .5 cent at all Ohio points.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of January 21, 1936

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

Below 63 octane	.05¼	.05⅝
63-70 octane	.06⅛	.06¼
60-62 400 grade:		
Below 63 octane	.05¼	.05⅝
63-70 octane	.06⅛	.06¼
64-66 375	.05⅝	.05½
68-70 360	.05⅛	.05⅝

NORTH TEXAS—

U. S. Motor grades:		
Below 63 octane	.05¼	.05⅝
63-70 octane	.06⅛	.06¼
60-62 400	.05¼	.05⅝
64-66 375	.05⅝	.05½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:	
Below 63 octane	.05⅝
63-70 octane	.06⅜
60-62 400	.06

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:	
Below 63 octane	.05⅝
63-70 octane	.06⅜

CHICAGO (based on Group 3)—

U. S. Motor grades:		
Below 63 octane	.05¼	.05⅝
63-70 octane	.06⅛	.06¼
60-62 400	.05⅛	.05⅝
64-66 375	.05¼	.05½
68-70 360	.05⅝	.05⅝

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane		.05⅝
60-64.9 octane		.07¼
65-70 octane		.07⅛
64-66 375		.05⅞
68-70 350		.06⅛

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.04½	.05½
58-60 400	.05½	.06⅛

EAST COAST—

U. S. Motor, below 60 octane:	
*New York (Bayonne)	.06½
Baltimore	.06½
U. S. Motor, 60-64.9 octane:	
*New York (Bayonne)	.06¾
Philadelphia	.07
Boston	.06¾
Baltimore	.06¾
Charleston, S. C.	.06¾
U. S. Motor, 65 and above:	
*New York (Bayonne)	.07
Philadelphia	.07¼
Boston	.07
Baltimore	.07
Charleston, S. C.	.07

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05¼	.05⅝
60-64.9 octane	.05½	.05¾
65 octane and higher		.05¾

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05⅝
52-54 450 (blending)	.05⅝
54-56 450 (blending)	.05⅞

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.03⅞
Grade 18-55	.04⅝	.04¾
Low vapor pressure grade:		
*14 lb. v.p. (max.)	.03⅝	.03½
*12 lb. v.p. (max.)	.05⅜	.05⅝

NORTH TEXAS—

Grade 26-70		.03⅝
Grade 18-55	.04⅜	.04½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.04

CALIFORNIA—

75-85 375-390	.04¾	.05⅛

*Nominal.

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅛	.03⅜
42-44	.03⅜	.03⅝

NORTH TEXAS—

41-43	.03⅝	.03¾

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.03¾

ARKANSAS (Ark., N. La., Miss. del.)—

41-43	.04⅛

PENNSYLVANIA (inland refineries)—

45	.05
46	.05⅛
47	.05¼

CHICAGO (based on Group 3)—

41-43	.03½	.03⅝
42-44	.03⅝	.03¾

CALIFORNIA (Pac. Coast market)—

38-40 high burning test	.04	.05

NEW YORK (Bayonne, N. J.)—

*41-43	.05⅛	.05½

GULF COAST (domestic)—

41-43	.04¼	.04½

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03⅝	.03½
No. 1 straw, 38-40	.03¼	.03⅝
No. 2 straw, 32-36	.03⅛	.03¼
No. 2 dark, 32-36	.03	.03⅛
No. 3, 28-32	.02	.03⅛
No. 3, 15 and above, 28-32	.02⅜	.02½

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅝	.03½
No. 1 straw, 38-40	.03¼	.03⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03½	.03¼

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36		.03½
No. 3, 28-32		.03¼

CHICAGO (based on Group 3)—

No. 1 prime white, 38-40	.03⅜	.03½
No. 1 straw, 38-40	.03¼	.03⅜
No. 2 straw, 32-36	.03¼	.03⅜
No. 2 dark, 32-36	.03	.03⅛
No. 3, zero to 15, 28-32	.02⅞	.03⅛
No. 3, 15 and above, 28-32	.02¼	.02½

NEW YORK (Bayonne, N. J.)—

*No. 1		.05⅛
*No. 2		.04½
*No. 4		.04¼

*Barge deliveries one-eighth to one-fourth cent under above tank car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02¼	.02⅝
No. 4, 24-28	.85	.90
No. 4, 15 and above, 24-28	.75	.80
No. 5	.65	.72½
No. 6	.62½	.70
Below 18 fuel oil, industrial	.60	.65

NORTH TEXAS—

U.G.I. gas oil	.02⅛	.02¼
No. 4, 24-28	.85	.90
No. 5	.65	.72½
No. 6	.62½	.70
Below 18 fuel oil, industrial	.60	.65

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02⅝	.03
10-14 fuel oil, industrial	.70	.75

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial	.60	.65

CHICAGO (based on Group 3)—

U.G.I. gas oil	.02¼	.02⅝
No. 4, 24-28	.85	.90
No. 4, 15 and above, 24-28	.72½	.77½
No. 5, 18-22	.62½	.70
No. 6, 10-15	.55	.60

Fuel oils of more than 40 cold test generally 5 to 15 cents per bbl. in these areas.

PENNSYLVANIA (inland refineries)—

36-40	.04⅛	.04⅜

CALIFORNIA—

Los Angeles:

30-34 gas oil, per bbl.	1.10	1.25
27 plus diesel	1.10	1.25
27 plus diesel (bunkers)	1.25	1.30
12-16 (bunkers at tidewater)	.87	.95
10-16 (cargo lots)	.80	.90
12-17 (tank cars)	.60	.95

San Joaquin Valley:

10-18 (tank cars)	.60	.75

San Francisco:

27 plus diesel, per bbl.		1.25
27 plus diesel (bunkers)		1.35
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03¼	.03⅜
28-30 diesel (bunkers)		1.70
Bunker C (bulk cargoes)		.75
Bunker C (bunkers)		.90

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04½
28-30 diesel (lighterage 6¼ plus per bbl.)		1.65
28-30 diesel (tank cars)		.04½
*Bunker C (to ocean-going ships in N. Y. harbor)		1.05
Industrial fuel (tank cars)		.04⅛

*Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

Bright Stocks:	
190-200 D, 15-25	.20
150-160 D, 0-10	.17
150-160 D, 15-25	.16½
150-160 E, 15-25	.16
100-110 D, 0-10	.15⅝
Steam refined:	
630 green (treated)	.09½
600 light green, untreated	.08½

PENNSYLVANIA—

600 dark green, untreated	.05	.06
Bright Stocks (Pennsylvania grade, No. 8 color, 145-50 at 510; 540-550 flash):		
10 pour test	.22	.22½
15 pour test	.21	.21⅝
20 pour test	.20	.20½
25 pour test	.19	.19½
Steam refined:		
600	.09½	.10
650	.11	.11½
600 Pennsylvania flash	.12	.12½
630 flash	.17	.17½
600 Warren E filtered	.13	.13½

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:		
150-3		.10
180-3		.11¼
180-4		.10⅝
200-3		.11⅝
200-4		.11⅜
250-3		.13⅝
250-4		.13¼
280-3		.14⅜
280-4		.14
300-3½		.15¼
400-3½		.16
100-2 paraffin oil		.05¾
15-20 Cold Test:		
200-3		.10⅝
200-4		.10¼
240-3		.12⅝
240-4		.12¼
280-3		.13⅝
280-4		.13

GULF COAST—

Pale Oils:		
200-3	.07	.07⅛
300-3	.07½	.08
500-3½	.08⅛	.09
750-3½	.09	.09¼
1,200-3½	.09½	.09⅝
2,000-4	.09⅝	.10
Red Oils:		
200-5-6	.07	.07¼
300-5-6	.07¼	.07⅛
500-5-6	.08	.08⅛
750	.08⅛	.09
1,200-5-6	.09	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:		
100-2½-3	.06¾	.07
200-2½-3	.07¼	.07½
300-3-3½	.09	.09½
400-3-4	.09½	.09¾
450-3-4	.09¾	.10
550-3-4	.10	.10¼
600-3-4	.10¼	.10½
Red Oils:		
200-4-5	.06¾	.07
300-5-6	.07¼	.07⅛
350-5-6	.07½	.07¾
400-5-6	.07¾	.08
450-5-6	.08	.08¼
500-5-6	.08¼	.08½
600-5-6½	.08½	.08¾
700-6½ plus	.08¾	.09
750-6½ plus	.09	.09⅛
900-6½ plus	.10	.10⅜

PENNSYLVANIA—

150 vis. at 70° F., color, 400-405 flash:		
Zero pour test	.21	.21⅛
10 pour test	.20	.20⅛
15 pour test	.19⅛	.20
25 pour test	.18½	.19
180 vis. at 70° F., 3 color:		
25 pour test	.21	.21½
200 vis. at 70° F., 3 color:		
Zero pour test	.25½	.26
10 pour test	.24½	.25
15 pour test	.24	.24½
25 pour test	.23	.23½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02½

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0235	.0240
124-126 (a.m.p.) w.c. scale	.0235	.0240

NEW YORK—

Wax in bags fully refined:		
123-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0230	.0235
124-126 (a.m.p.) y.s.	.0225	.0230
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.05⅝	.05½
60-62 400		.05½
61-63 390		.05⅝
64-66 375		.05⅝

LOS ANGELES—

U. S. Motor grades:		
53-55 octane		.04
55-65 octane	.04	.04⅛
65-67 octane	.04⅛	.04½
67-69 octane	.04½	.04⅝
Above 69 octane	.04⅝	.05
58-60 400 endpoint	.04⅝	.05½

KEROSENE

GULF COAST—

41-43 prime white		.03⅞
41-43 water white	.03⅞	.04
44 water white		.04½

LOS ANGELES—

41-43 water white	.04¼	.04⅝

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:		
600 Warren E	.19½	.20
600 S.R. unfiltered		.16½
650 S.R. unfiltered		.17½
600 flash S.R.		.18½
630 flash S.R.	.23	.23½
Bright Stocks:		
8 color	.26	.26½
6½ plus color in dilution		.25½

NEUTRAL OIL

200-3 color		.29
150-3 color	.24½	.25

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.	.03875
125-127 a.m.p.	.04
128-130 a.m.p.	.0450
133-135 a.m.p.	.05
133-135 a.m.p.	.0525
Crude scale:	
124-126 w.s.	.0225 .0230
124-126 y.s.	.0225

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 9, 1936)

East Texas*	$1.15
Van, Tex.†	1.02
Altus and Tipton, Okla.‡	1.08
Other fields (see gravity table).	

*All companies. †Pure Oil Co. ‡Gypsy Oil Co.

West Texas

Crane, Upton, Howard, Glasscock and Mitchell Counties	$ .80
Winkler County	.85
Lea County, N. Mex.	.85
Pecos County*	.85
Pecos shallow†	.75

*Shell Petroleum Co., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Note—For Humble, Magnolia and Texas Co.'s West Texas and Lea County prices see gravity table. Above prices are those of other buyers.

Rocky Mountain States

(Effective January 9, 1936)

Iles, Colo., light*	$1.06
Iles, Colo., heavy*	1.00
Greybull, Wyo.*	1.25
Torchlight, Wyo.*	1.25
Grass Creek, Wyo., light*†	1.28
Grass Creek, Wyo., heavy*†	.72
Hamilton Dome, Wyo.*	.67
Elk Basin, Wyo., light*†	1.28
Frannie, Wyo., heavy*	.72
Frannie, Wyo., light*	.82
Hogback, N. Mex.*	1.21
Pondera, Mont.*	1.10
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.11
Rock Creek, Wyo.†	1.12
Artesia, N. Mex. (Dec. 1, 1933)‡	.75
Maljamar, N. Mex. (Sept. 29, 1933)‡	.75
Fort Collins and Wellington, Colo.‡ (Jan. 9, 1936)	See Note
Florence, Colo.	.93
Lance Creek, Wyo.	.85
Lost Soldier, Wyo. (Sept. 30, 1933)	.88
Hudson, Wyo. (June 2, 1931)	.65
Sunburst, Mont.	1.25
Cat Creek, Mont.	1.28
Cut Bank, Mont. (May 22, 1934)	1.45

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co.

Note—Fort Collins and Wellington are not posted, price 5 cents under quotation of Salt Creek crude of like gravity (Fort Collins 36°; Wellington 33°). *Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co.

Gulf Coast

(January 9, 1936)

Cleveland, Tex.	$1.10
Hardin, Tex.	1.03
Greta, Tex.	.90
Refugio, Tex., heavy	.90
Tomball, Tex.	1.30
LaFitte, La.	1.12
Livingston, Tex.	1.15
Bosco, La.	1.00
Evangeline, La.	1.07
Welsh, La.	.96

Cleveland and Hardin by Magnolia; Greta by Texas Co.; Refugio by Humble; Tomball by Humble and Magnolia; LaFitte by Texas Co.; Bosco by Pure; Evangeline and Welsh by Stanolind Oil & Gas Co.

Southwest Texas

(January 9, 1936)

Saxet	$ .90
Mirando	.85
Pettus	1.25
Salt Flat*	.97
Salt Flat‡	.97
Darst Creek*	.97
Darst Creek†	.97
Luling	.90
Lytton Springs	1.00
Duval County	.85

*Humble Oil & Refining Co. †Magnolia Petroleum Co., Gulf Pipe Line Co. and Texas Co. ‡Shell Petroleum Corp. Saxet posted by Humble and Texas; Mirando by Humble and Magnolia; Pettus by Humble; Salt Flat by Humble; Luling and Lytton Springs by Magnolia; Duvall by Texas Co.

Middle Western States

OHIO OIL CO.

Lima (Jan. 10, 1936)	$1.25
Illinois (Jan. 9, 1936)	1.23
Princeton, Ind. (Jan. 9, 1936)	1.23
Midland, Mich. (Jan. 13, 1936)*	1.32
West Branch, Mich. (Nov. 7, 1935)	.96
Muskegon, Mich.	1.00
Ogemaw, Mich.	1.06
Eastern Kentucky:	
Big Sandy River (Jan. 9, 1936)	1.30
Kentucky River (Jan. 9, 1936)	1.38
Western Kentucky (Jan. 9, 1936)	1.23

*Posted by Pure Oil Co., Simrall Pipe Line Co. Ogemaw and West Branch, Mich., by Simrall Pipe Line Co. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

North Louisiana and Arkansas

Smackover, all grades (Jan. 10, 1936)*	$ .75
Smackover, all grades (Jan. 9, 1936)†	.80
Tullos and Urania (Jan. 9, 1936)	.97
Nevada, Ark. (Jan. 10, 1936)	.65
El Dorado East Field (Jan. 16, 1936)	.75
Converse, Holly, Pleasant Hill and Zwolle (Jan. 10, 1936)*	1.10
Lisbon, Ark. (Jan. 10, 1936)*	1.10
Elm Grove, La. (Jan. 10, 1936)	.80

*Standard Oil Co. of Louisiana and Gulf Refining Co. The Texas Co. (effective January 14) and Magnolia Petroleum Co. effective January 16. Urania by H. L. Hunt Co. and Louisiana Oil & Refining Co. Nevada by Standard of Louisiana. El Dorado East Field by Magnolia Petroleum Co. Phillips Petroleum Co., effective January 17, posts 75 cents for all grades in Union and Ouachita Counties, Arkansas.

Eastern States

TIDE WATER PIPE CO.
(Effective Jan. 13, 1936)

Bradford, Pa.	$2.45
Allegany, N. Y.	2.45

SOUTH PENN OIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.45
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.17
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.12
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.97
Corning Grade Oil in Buckeye Pipe Line Co.'s lines	1.42

PENNZOIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	2.42
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	2.41
Includes Titusville district.	
Group C	2.40
Includes Turkey and Tidioute districts.	
Group D	2.39
Includes Bear Creek and Forkey districts.	
Group E	2.36
Includes Edeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	
Price depends on lengths of pipe line haul to plant at Oil City.	

PURE OIL CO.
(Effective Jan. 13, 1936)

Cabin Creek, W. Va.	$2.12
Bradford Hollow, W. Va.	2.12
Kelly Creek, W. Va.	2.12

Canada

Ontario (Sept. 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (May 21, 1934):†	
Clear naphtha	2.55
Discolored naphtha	2.37
Crude oil, 50 gravity	2.19
Crude oil, 45 to 49.9	2.07
Crude oil, 40 to 44.9	1.50

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$ .85

*F.o.b. ship, based on October transactions and exclusive of production and export taxes and bar dues.

Tulsa Accountants

The January meeting of the Tulsa Petroleum Accountants Society to be held January 24 will discuss questions submitted by various members in connection with the Social Security Act. This discussion will be conducted by J. H. Hill, general counsel for the Texas Co.

Walter Wingrove, Wingrove Oil Co., Sheboygan, Wis., has been elected president of the Wisconsin Petroleum Association.

F. E. Spencer, Spencer Petroleum Co., was elected president of the Burning Oil Distributors Association at the Chicago Oil Men's Club.

R. L. Hague, general manager of the Standard Shipping Co., was elected president of the International Lifeboat Racing Association.

L. H. Prichard, Oklahoma City, has been appointed chairman of the domestic asphalt committee of the Independent Petroleum Association of America.

P. R. Naylor, head of the Maple Leaf refinery at Coutts, Alberta, has returned from spending the holidays with his family at Denver, Colo.

J. S. Barwick, independent oil operator, has opened an office in Wichita, Kan. He formerly was geologist at Eldorado, Kans., for Skelly Oil Co.

Clyde R. Smith, formerly in the land department of the Magnolia Petroleum Company, Dallas, Tex., has been transferred to the Magnolia Pipe Line Company and moved to Midland, Tex.

Julius Herren, assistant engineer for the Stanolind Oil & Gas Co. at Casper, Wyo., and Clayton Kerr, engineer at the gas plant, inspected the company's operations at Iles, Moffat County, Colorado, the past week.

Crude Oil Prices by Gravities

Gravity—	1 Oklahoma, Kansas, and Salt Creek, Wyo.	2 Central and North Texas	3 East Central Texas	4 East Central Texas	5 North Louisiana, Arkansas	6 North Louisiana Arkansas	7 Gray County Texas	8 Carson and Hutchinson Counties, Texas	9 Conroe, Texas	10 West Texas and Lea County, New Mexico	11 Gulf Coast, Texas and Louisiana	12 Anhuac and Dickinson, Texas	13 Iowa and Cameron Meadows, Texas
Below 20	....	....	....	....	....	....	....	....	....	....	$ .92	....	$ .82
20-20.9	....	....	....	....	....	....	....	....	....	....	.94	....	.84
21-21.9	....	....	....	....	....	....	....	....	....	....	.96	....	.86
22-22.9	....	....	....	....	....	....	....	....	....	....	.98	....	.88
23-23.9	....	....	....	....	....	....	....	....	....	....	1.00	....	.90
24-24.9	....	....	....	....	....	....	....	....	....	....	1.02	....	.92
Below 25	$ .86	....	....	....	....	$ .78	....	....	....	....	....	....	....
25-25.9	.88	....	....	....	....	.80	....	....	....	....	1.04	....	.94
26-26.9	.90	....	....	....	....	.82	....	....	....	....	1.06	....	.96
27-27.9	.92	....	....	....	....	.84	....	....	....	....	1.08	....	.98
28-28.9	.94	....	....	....	....	.86	....	....	....	....	1.10	....	1.00
Below 29	.94	$ .84	$ .91	$ .84	$ .84	....	....	....	....	....	$ .75	....	....
29-29.9	.96	.86	.93	.86	.86	.88	....	....	....	....	.76	1.12	....	1.02
30-30.9	.98	.88	.95	.88	.88	.90	....	....	....	....	.78	1.14	$1.04	1.04
31-31.9	1.00	.90	.97	.90	.90	.92	....	....	....	....	.80	1.16	1.06	1.06
32-32.9	1.02	.92	.99	.92	.92	.94	....	....	....	....	.82	1.18	1.08	1.08
33-33.9	1.04	.94	1.01	.94	.94	.96	....	....	....	....	.84	1.20	1.10	1.10
34-34.9	1.06	.96	1.03	.96	.96	.98	....	....	....	....	.86	1.22	1.12	1.12
Below 35	....	....	....	....	....	....	$ .86	$ .81	....	....	....	....	....	....
35-35.9	1.08	.98	1.05	.98	.98	1.00	.88	.83	$1.24	.88	1.22	1.14	1.12
36-36.9	1.10	1.00	1.07	1.00	1.00	1.02	.90	.85	1.26	.90	1.22	1.16	1.12
37-37.9	1.12	1.02	1.09	1.02	1.02	1.04	.92	.87	1.28	.90	1.22	1.18	1.12
38-38.9	1.14	1.04	1.11	1.04	1.04	1.06	.94	.89	1.30	.90	1.22	1.20	1.12
39-39.9	1.16	1.06	1.13	1.06	1.06	1.08	.96	.91	1.32	.90	1.22	1.22	1.12
40 and over	1.18	1.08	1.15	1.08	1.08	1.10	.98	.93	1.34	.90	1.22	1.24	1.12

Column 1—Effective January 9, 1936—Companies starting schedule below 25 gravity are Stanolind, Anderson-Prichard, Bell, Barnsdall, Champlin, Continental, Deep Rock, Dickey, Eason, El Dorado, Empire, Falcon, Globe, Gypsy, Johnson, Kan-O-Tex, National, Pepper, Sunray, Texas, Tide Water, Twin State, Vickers, White Eagle. Starting below 29 gravity are Carter, Magnolia, Pure, Rock Island, Shell, Sinclair Prairie and Skelly companies.

Column 2—Effective January 9, 1936—Humble Oil & Refining Co. and adopted by all purchasers.

Column 3—Effective January 9, 1936—Humble Oil & Refining Co. and Sinclair Prairie Oil Marketing Co.

Column 4—Effective January 9, 1936—Magnolia Petroleum Co.

Column 5—Effective January 9 to January 15, inclusive, by Magnolia Petroleum Co.

Column 6—Effective January 10, 1936—Standard Oil Co. of Louisiana, Gulf Refining Co. and Stanolind Oil & Gas Co. Magnolia adopted the Standard of Louisiana price schedule (Column 6) on January 16, starting at below 29 gravity 86 cents.

Column 7—Effective January 9, 1936—Led by Humble Oil & Refining Co. Adopted by all buyers.

Column 8—Effective January 9, 1936—Led by Humble Oil & Refining Co. Adopted by all buyers.

Column 9—Effective January 9, 1936—Led by Sun Oil Co. Adopted by all buyers.

Column 10—Effective January 14, 1936—Humble Oil & Refining Co. Does not include Pecos County. Effective January 14 by The Texas Co.; January 16 by Magnolia Petroleum Co.

Column 11—Effective January 9, 1936—Led by Sun Oil Co. Adopted by all buyers. The Texas Co. starts schedules at below 18 gravity 88 cents.

Column 12—Effective January 9, 1936—Humble Oil & Refining Co.

Column 13—Effective January 9, 1936—Magnolia Petroleum Co.

(California Crude Oil Prices on Page 102)

Market Record of Active Oil Stocks Listed on New York Stock Exchange

Compiled by Carl H. Pforsheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1935-36 High	1935-36 Low	Week ended Jan. 18 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1934 High	1934 Low	1933 High	1933 Low
87	48½	5,800	87	82	82	Amerada Corp.	788,675	N.P.	50cQ	1-31-36	$2.00	55⅝	39	47⅝	18½
31	20½	50,000	31⅜	29⅞	30	Atlantic Refining	2,664,904	$25	25cQ	12-16-35	1.00	35¼	21½	32½	12⅜
17⅞	5⅜	81,400	17⅞	15¾	16⅜	Barnsdall Corp.	2,195,397	$5	15cQ†	2-1-36	‡.20	10	5⅞	11	3
16	3⅜	64,100	15¼	14½	14⅞	Columbia Gas & Elec.	11,610,036	N.P.	20c	11-15-35	.20	19¼	6⅝	28⅛	9
13⅞	6½	185,500	13⅞	12⅝	12⅝	Consolidated Oil Corp.	13,996,072	N.P.	14c	10-31-34	.25	14¼	7¼	15⅝	5
38	15⅛	26,300	37⅜	35⅛	35⅛	Continental Oil of Delaware	4,682,722	$5	25c	1-31-36	.62½	22¾	15¾	19⅝	4⅞
32	11⅜	50,900	32	28	30¼	General Asphalt	387,149	$10	25c	12-17-35	.25	23½	12	27	4⅝
12¼	1½	246,200	12¼	9	10	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	5⅝	2½	7⅜	1⅞
22	9½	25,500	22	20½	20½	Mid-Continent Petroleum	1,857,912	$10	25c	12-2-35	.40	14¾	9⅛	16	3¾
24⅞	9	28,400	24⅞	21	23½	National Supply of Delaware	382,591	$25	....	5-15-31	....	21⅛	10	28⅝	4
17½	9¼	137,200	17½	15½	16¼	Ohio Oil Co.	6,563,377	N.P.	15cSA	12-14-35	.30	15⅞	8½	17⅝	4⅜
14⅞	6¾	6,500	14¼	13⅛	13⅛	Pacific Western Oil	1,000,000	N.P.	40c	11-30-34	.25	9⅜	5½	9½	3
3⅝	½	33,200	3⅝	2⅝	2¾	Panhandle P. & R.	198,770	N.P.	....	.....	....	2½	⅝	4¼	⅝
41⅜	13¾	24,700	40⅝	39⅞	40⅛	Phillips Petroleum	4,154,687	N.P.	50c†	2-29-36	1.25	20¾	13⅜	18⅜	4¾
15¼	6½	24,600	15¼	13⅝	13⅝	Plymouth Oil Co.	1,050,000	$5	25c	3-30-35	.25	16¾	7¼	17⅝	6⅝
21⅛	5⅞	161,500	21⅛	18⅝	18⅝	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	14⅞	6⅛	15⅜	2½
51⅝	29½	900	51⅝	50¼	51½	Royal Dutch N. Y. shares	fl. 503,642,000	fl. 100	$1.70	8-1-35	1.70	39⅛	28⅝	39¾	17⅝
36⅞	20¾	7,400	36	33⅝	33¾	Seaboard Oil of Delaware	1,244,283	N.P.	15cQ†	12-14-35	1.00	38⅜	20¾	43⅜	15
18⅛	5½	39,800	18⅛	16⅜	17⅝	Shell Union Oil	13,070,625	N.P.	....	6-30-30	....	11½	6	11⅝	4
116½	63⅛	1,900	116½	111½	115	Shell Union Oil pfd.	400,000	$100	....	7-1-31	....	89	57	61	28½
18¾	4¾	39,800	6¾	5½	5⅞	Simms Petroleum	461,698	$10	1.25 liq.	10-18-35	11.75 liq.	17⅛	7¼	12⅜	4⅞
24	6½	9,900	24	21⅞	21⅞	Skelly Oil	1,008,514	$15	....	12-15-30	....	11½	6	9⅞	3
16¾	10⅝	248,000	16¾	15⅛	15¾	Socony-Vacuum	31,154,379	$25	15cQ	9-16-35	.30	19⅞	12½	17	6
42¼	27¾	40,900	42⅛	39⅞	40⅜	Standard Oil of California	13,102,900	N.P.	25c	12-15-35	1.00	42⅞	26½	45	19½
37½	23	32,300	36⅞	35⅜	35½	Standard Oil (Indiana)	15,215,677	$25	25cQ	12-16-35	1.00	32¾	23¼	34	17
32	20	800	28½	28⅛	28¼	Standard Oil of Kansas	200,000	$10	50cQ	10-31-34	....	41	26	39⅞	12¾
55⅛	35¾	56,200	55	53¼	53⅞	Standard Oil of New Jersey	25,856,081	$25	50cSA†	12-16-35	‖1.25	50⅛	39¼	47½	22¾
80	60½	1,900	80	77½	77½	Sun Oil	1,733,013	N.P.	25cQ	12-16-35	$1 & 7% Stk.	74¼	51½	59	35
34⅛	16½	74,200	34⅛	31	32½	Texas Corp.	9,486,417	$25	25cQ	1-1-36	1.00	29¾	19⅝	30⅛	10⅝
10⅝	3¼	98,500	10⅝	8	9½	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	....	6½	2½	6½	1⅝
16¾	7⅝	85,900	16¾	15⅝	16	Tide Water Associated	5,631,341	N.P.	25c	1-15-36	....	14⅜	8	11¾	3⅛
104½	84	1,900	104	102½	103¾	Tide Water Associated pfd.	666,524	$100	$1.50Q	1-2-36	§6.50	87	64½	65¼	23½
25¼	14¾	15,900	25¼	24¼	24¼	Union Oil of California	4,386,070	$25	25cQ	2-10-36	1.00	20½	11½	23⅜	8½
26½	20¼	4,800	25¼	24	24⅝	Union Tank Car Co.	1,200,000	N.P.	30cQ	12-2-35	1.20	25¾	15⅝	22¾	10½
4⅝	1	23,500	4¼	3¼	3¾	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	5¾	2	5½	2

*Ex-dividend. †Plus extras. ‡Also 50 per cent in stock of Barnsdall Ref. §Partly on account of accumulation. ‖Dividend 4/75 Mission Corp. paid 3-15-35.

Market Record of Active Oil Stocks Listed on New York Curb

Compiled by Carl H. Pforsheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1935-36 High	1935-36 Low	Week ended Jan. 18 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1934	1934 High	1934 Low	1933 High	1933 Low
14⅝	3¾	15,600	14⅝	13¼	14¼	Bridgeport Machine Co.	150,000	N.P.	....	5-1-30	....	3¾	½	1⅜	⅛
47¾	30½	850	47¾	40⅜	45	Buckeye Pipe Line Co.	200,000	$50	75cQ	12-14-35	$3.00	38	26	29¾	25
4¼	1⅝	20,900	3½	3	3⅛	Caribb Syndicate	799,020	25c	.....	.....	....	5½	1½	7⅜	⅛
157	115	100	120	120	120	Chesebrough Mfg. Co.	120,000	$25	$1Q†	12-27-35	6.50	150	116	129	71
4½	¾	288,200	4½	3⅜	4¼	Cities Service	37,804,394	N.P.	....	6-1-32	....	4¼	1¼	6¼	1⅛
2⅛	½	10,500	1⅞	1½	1¾	Colon Oil	2,200,000	N.P.	....	.....	....	3¼	½	4	¼
2⅜	¼	9,500	2⅛	1½	1½	Cosden Oil	399,687	$1	....	.....	....	3⅞	½	3⅞	1⅝
27	10	99,700	27	21¾	26	Creole Petroleum	6,974,356	$5	20c	12-31-35	.20	14⅜	9⅝	12	4¾
11	4	3,100	11	9⅝	10½	Darby Petroleum	509,696	$5	25cSA	1-15-36	.50	7½	4⅛	8	2⅛
3½	¾	6,600	3½	2⅜	3⅜	Derby Oil & Refining	263,162	N.P.	....	.....	....	2¼	1	2¾	⅞
42	33¼	500	42	40	42	Eureka Pipe Line	50,000	$50	$1Q	2-1-36	4.00	37	30	41¾	20
84½	50¼	14,100	84½	79½	81½	Gulf Oil Corp.	4,538,101	$25	....	10-1-31	....	76¾	49¾	62	24
72	44	11,900	72	68	68½	Humble Oil & Refining (new)	8,923,935	N.P.	25cQ	10-1-35	1.25	49½	33¼	105½	40
22⅞	15⅜	32,500	22⅞	21⅜	21⅞	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	12-2-35	1.25	17⅞	12⅝	15⅞	6½
6⅛	3⅝	2,300	6	5⅝	5¾	Indiana Pipe Line	300,000	$10	15cSA†	11-15-35	.35	6⅞	3⅜	8	3⅛
39¾	28	44,500	38½	34¾	37	International Petroleum	14,247,068	N.P.	$1.25†‡	12-2-35	2.50	33⅜	19⅜	23½	8⅞
11⅞	4⅜	54,000	11⅞	10½	11⅜	Louisiana Land & Exp.	3,000,000	N.P.	10cQ	12-16-35	.10	5	2⅛	2¼	⅛
8¼	3½	1,000	8¼	7⅞	8	Lion Oil Refining	270,000	N.P.	....	10-27-30	....	6	3⅜	9½	1¼
11¼	4½	3,700	11	10½	10⅝	Lone Star Gas	5,382,723	N.P.	20cSA	1-15-36	.30	8⅜	4¼	11⅞	4¾
6¼	4⅛	6,900	6½	5¾	6⅛	Mountain Producers	1,682,182	$10	30cSA	12-31-35	.90	5½	4	6½	2½
23	11¾	19,800	23	21⅜	21⅜	National Fuel Gas	3,810,183	N.P.	25cQ	1-15-36	1.25	18⅛	13⅛	20	10
14⅞	6¾	2,600	14⅞	13½	13½	National Transit	509,000	$12.50	35cSA	12-16-35	.75	9½	7	10	5½
3⅜	2	2,500	3⅜	3⅛	3⅜	New Bradford Oil	1,445,202	$5	10cSA	9-16-35	.20	2½	1¾	2⅛	½
4⅛	1	25,300	4⅛	1¾	3¾	New Mexico and Arizona	1,000,000	$1	....	.....	....	2¾	1	1⅜	½
5¼	3	400	5¼	5	5	New York Transit	100,000	$5	15cSA	4-15-35	.30	4¾	3	4⅞	3
8	5¼	500	7⅞	7¼	7⅞	Northern Pipe Line	120,000	$10	25cSA	2-2-36	.50	7	4⅝	6⅛	4¼
4⅜	1¼	85,200	4¼	3¼	3⅞	Pantapec Oil	1,608,700	N.P.	....	.....	....	2⅝	⅞	3⅜	½
2½	⅝	900	2¼	2⅛	2¼	Ryan Consolidated	296,931	N.P.	....	.. ...	....	3⅜	⅞	4¼	⅝
8⅝	5½	8,400	8⅝	7½	8⅝	Salt Creek Producers	1,496,859	$10	40cSA	12-31-35	1.20	7⅞	5½	9¼	3½
35⅛	21⅝	2,900	34¾	34	34½	South Penn Oil	1,200,000	$25	40cQ	12-28-35	1.35	26½	17½	22⅛	11
5	3⅞	800	5	4⅜	5	Southern Pipe Line	100,000	$10	15cSA	9-3-35	.30	5½	3½	6	2⅛
56	44¼	50	54	54	54	Southwest Penna. Pipe Lines	35,000	$50	$1Q†	12-31-35	5.00	47	41	43	24½
24	18	8,800	23⅜	21⅝	22⅞	Standard Oil of Kentucky	2,604,790	$10	25cQ†	12-14-35	1.25	18⅜	14⅝	19¼	8⅜
12⅞	7¾	500	12¾	12¼	12¼	Standard Oil of Nebraska	188,403	$25	....	6-20-34	....	16⅞	8¼	20½	11
24	11½	2,900	24	23	23	Standard Oil of Ohio	753,740	$25	....	1-3-33	....	28½	12¼	41	15½
3⅜	⅞	47,300	3⅜	2⅞	3⅜	Sunray Oil	1,610,810	$1	....	4-15-31	....	2	11/16	1½	¼
6¾	2½	75,200	6¾	6	6¼	Texas Gulf Producing Co.	888,041	N.P.	....	12-29-34	....	7	3⅜	6½	3¾
8	5	28,100	8	7⅛	7⅞	Texon Oil & Land	336,028	N.P.	15cQ	12-30-35	.60	11	4⅜	13¾	6¼

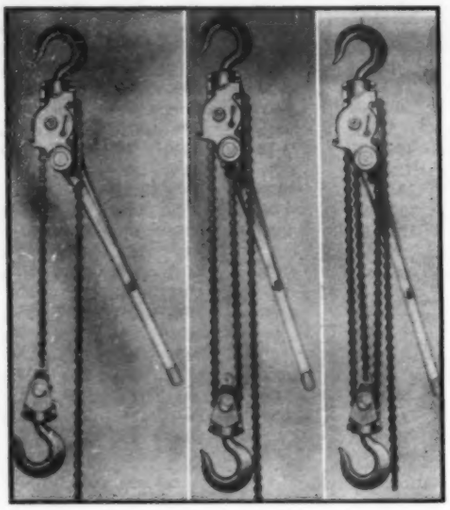
*Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

Note.—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Hoist Developed by Coffing to Handle Pipe in the Trench

A hoist with several new features for use in pipe line work has been developed by Coffing Hoist Co., Decatur, Ill., and it will be distributed through Crutcher-Rolfs-Cummings, Houston, Tex.



2-ton 4-ton 6-ton

The device is designed for lifting pipe line in the trench for repairs, application of coating or removal. It is light in weight and readily portable, making it easy to use in conjunction with tripods along the line.

The hoist is constructed so that it may be used for 2-, 4- or 6-ton loads by simply changing the chain hookup. For 2-ton loads one chain is used; for 4-ton, two chains, and for 6-ton, three chains.

Bulletins, Booklets and Other Literature for the Trade

General Electric Co., Schenectady, N. Y., has for distribution a 16-page booklet describing its steam turbines for the mechanical drive of air compressors, fuel-oil pumps, oil refinery work and general service.

A catalogue of insulated porcelain enamel service stations, in a variety of standard designs adopted for 1936, has been issued by the Austin Co., Cleveland, O., manufacturer of porcelain enamel and luminous buildings.

A new bulletin describing its line of power-driven, horizontal duplex, double-acting, crosshead type, moderate-speed, heavy-duty compressors has been announced by Ingersoll-Rand, 11 Broadway, New York.

Combustion Engineering Co., New York, has issued a 16-page catalog illustrating and describing its sectional-header type boiler for a wide range of steam pressures, capacities and methods of fuel firing.

A broadside issued by W. C. Norris Manufacturer, Tulsa, describes and illustrates Norris Blue Ribbon seamless steel working barrels.

The current number of the Bridgeport Bulletin, published by Bridgeport Machine Co., Wichita, Kans., is accompanied by a 20-page booklet on the company's wide line of oil-field equipment, including an alaphabetical list of the products handled.

A 32-page catalog No. 1,519 has been completed by Link-Belt Co., 2045 West Hunting Park Avenue, Philadelphia, Pa., on its line of single-, double- and triple-reduction herringbone-gear speed-reducers for large speed ratios and heavy and shock loads.

A catalog of 28 pages has been issued by Struthers Dunn, Inc., 139 North Juniper Street, Philadelphia, Pa., covering relays, timing devices, thermostats, resistors, thermal links, insulators, etc.

Among interesting articles in the current issue of Hot Shots, published by the Lane-Wells Co., is one on how a gun perforator helped to throttle down a wild gasser.

Roots-Connersville Blower Co., Connersville, Ind., is offering a bulletin describing Harrison inert gas producers.

A 106-page handbook, "Agathon Alloy Steels," is being distributed to users of alloy steels by Republic Steel Corp., Massillon, Ohio. The new book presents a wealth of up to date chemical and metallurgical data on standard and special steels and outlines factors to be considered in their selection and heat-treatment. The applications of alloy steels for specific uses are discussed.

Men Widely Known in the Equipment Field

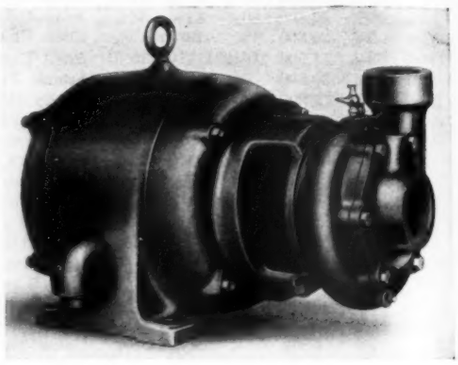
C. C. Herndon, recently promoted to manager of Hanlon-Waters, Inc., Tulsa, has been associated with Hanlon interests since 1926. Prior to that date he was assistant superintendent of the Trans-

C. C. HERNDON

continental (now Marathon) refinery at Bristow, Okla. He has been with Hanlon-Waters, Inc., since its organization in November, 1929. As manager he will have charge of both manufacture and sale of a wide line of oil-field equipment.

Monobloc Centrifugal Pump Is Announced by Worthington

A new Monobloc centrifugal pump, designed specially for hot well service and for handling liquids near their vapor pressures, announced by Worthington Pump & Machinery Corp., Harrison, N. J., is its type DH unit. Oil refineries, power plants, heating systems, air-conditioning plants, chemical, refrigerating, and many other industrial



plants use this type for handling volatile liquids against medium heads.

These pumps are available for capacities of 10 gallons a minute against heads of 50 to 110 feet with 12-inch submergence, to 175 gallons a minute against heads of 50 to 70 feet, with 60-inch submergence. They are compact, the greatest overall floor space required by the largest being only 24 by 16 inches. The 2½-DH size is shown in the accompanying photograph.

Features include extra-deep-sealed stuffing-boxes, large shaft, solid-forged stuffing-box gland, special rustproof impeller lock nut to prevent leakage to shaft, shaft-sleeve integral with impeller-hub to give greater rigidity, removable suction-head, rugged casing requiring no base-plate, oversize vent on suction, ball-bearing motor d.c. or a.c., motor winding protected by special moisture-resisting varnish.

Power required varies from 1 to 5 horsepower, speed 3,600 r.p.m. Pumps are bronze-fitted (standard), all-iron, all-bronze, or of special materials; with splash-proof (standard), air-jacketed, or explosion-resisting motors of all usual current characteristics.

New Lane-Wells Buildings

Construction of the $50,000 Lane-Wells Co. office and factory buildings in Los Angeles, Calif., is expected to be completed about March 1. Two reinforced concrete units, modern in design, are being erected in Soto Street north of Slauson Avenue. The office building will be 50 by 150 feet, and the factory 72 by 160. The buildings will be occupied by the Lane-Wells Co., manufacturer of gun perforators, oil well packers and liner hangers, and the Technicraft Engineer Corp., a subsidiary for research and development.

New Galvanizing Plant

The growing use of galvanizing as a measure of protection for a wide range of oil-field equipment has led to the opening of a new plant in Tulsa by the American Steel Derrick Co., on the property of that company and the Tulsa Boiler & Machinery Co. The plant is to be operated by the Rogers Galvanizing Co., of which A. T. Rogers, of Chicago, is president. The Rogers organization operates galvanizing plants in Chicago, Rockford,

Batavia and Blue Island, Ill. C. L. Simpson has been transferred from Batavia to manage the Tulsa plant. Galvanizing is used to provide a positive coating for derricks, bolted tanks and any form of structural steel or iron which is exposed to the weather or to salt water in the oil fields.

BJ Develops New Center-Latch Elevator of Great Strength

With improvements made to provide faster and more convenient operation, Byron Jackson Co., 2150 East Slauson Avenue, Los Angeles, Calif., has developed a new type A center-latch drillpipe ele-

vator. Including the basic features of earlier types, this new design will accommodate all sizes of BJ weldless links and thus is said to offer ample strength for handling the longest and heaviest strings of drillpipe.

New-style link-retainers form a part of the elevator and cannot be lost. When open the link-retainer blocks are supported at the correct angle to guide the links into position. When closed the link-retainers not only held the links securely in position but also form a closed C-link for greater strength. The link-retainer bolt screws down into a recess and is safe from accidental opening. The lower end of the bolt is peened over to prevent loss or accidental dropping in the derrick.

Additional safety is provided by the latch mechanism. Recessed in the body of the elevator, this mechanism is far to the front and is safe against possible contact with the links. It is protected against accidental opening; and while the latch handle is further protected during lowering by a guard at the bottom of the elevator, it is always in a convenient position for handling.

Here and There With Men Who Manufacture Equipment

National Tube Co. has opened a district sales office in the Magnolia Building, Dallas, Tex. F. O. Young, formerly in charge of the St. Louis, Mo., office is manager.

E. R. Davis has been transferred by Gates Rubber Co. from its Rocky Mountain division headquarters in Denver, Colo., to the southwestern division, with headquarters in Dallas, Tex. He succeeds J. D. Sullivan, now district representative in Detroit, Mich.

The Twin Disc Clutch Co., Racine, Wis., has opened an office at 310 East Fourth Street, Tulsa, in charge of John B. Jenkins, district manager.

R. C. Brower, secretary-treasurer of the Timken Roller Bearing Co., Canton, Ohio, was elected a director to fill the vacancy created by the death of J. G. Obermier.

The Merco Centrifugal Separator Co., of San Francisco, has appointed W-K-M Co., Houston, Tex., exclusive export distributor for the Merco Centrifugal separator. W-K-M had been distributor in the Mid-Continent and Gulf Coast for this separator for desanding rotary drilling muds.

The American Can Co. of Louisiana has opened a sales office at 623 Bankers Mortgage Building, Houston, Tex., with I. W. Siekmann in charge. W. A. Mears will continue as sales representative for North Texas.

William C. Carter has been appointed manager in charge of the new Southwestern Petroleum Section of the Westinghouse Electric & Manufacturing Co. whose offices are in the Insurance Building, Dallas, Tex. Associated with him are William C. Dreyer, application engineer, and Chris C. Christensen and Jack Swindell, sales engineers.

In commemoration of its fiftieth birthday, on January 8 Westinghouse Electric & Manufacturing Co. held a meeting for the 12,000 employes in its Pittsburgh district with simultaneous meetings in every important Westinghouse factory and office in the country. The Pittsburgh program was broadcast to all the other meetings.

Struthers-Wells Co., Warren, Pa., steel and alloy steel equipment, has appointed Brance-Krachy Co., Inc., 1901 Carolina Street, Houston, Tex., as its representative in East Texas.

Seiberling Rubber Co., Akron, Ohio, has made A. L. Edsell manager of its newly created petroleum sales department.

C. S. (Froggie) Vogel, formerly with Charles N. Hough Co., is now with the LubriKup Co. He will cover Central and West Texas with headquarters in Wichita Falls.

The Southern States Co., Inc., Dallas, Tex., has changed its name to Otis Pressure Control, Inc., better to identify the name with the type of service and equipment provided by the company.

National Announces Tanks for Different Types of Service

The National Tank Co., of Tulsa, has announced a new line of bolted metal tanks, designed according to A.P.I. specifications, and built in the company's recently enlarged plant.

National bolted metal tanks are offered in four materials for any service requirement. These materials include blue annealed steel, galvanized blue annealed steel, plain wrought iron and galvanized wrought iron. Galvanization is done after fabrication, producing a tank which is completely covered by the spelter. National standard specifications include such improvements in construction and accessories as improved bolt holding rafters, larger extended cleanout, thief hatch, flange connections, drain connections, and other features to simplify and aid in the erection of the tank.

National galvanized steel, wrought iron and galvanized wrought iron tanks are recommended by the manufacturer for corrosive oil service. The wrought iron with galvanizing after fabrication is recommended by the manufacturer for any severely corrosive service.

Smaller Displacement Meter

Extending its range of sizes of rotary displacement meters, Roots-Connersville Blower Corp., Connersville, Ind., has added a smaller size unit, the 2½x7 meter, built for line pressures up to 25 pounds, and having a normal capacity of 5,000 cubic feet per hour, at 1-inch water-gauge differential, but maintaining commercial accuracy on loads from 10 to 150 per cent of normal rating.

MacClatchie Manufacturing Co. has built this shed at its plant in Compton, Calif., for storing and handling tubing needed in making liners.

Full-Gauge Hole Is Maintained While Cores Are Cut Fast

Designed to cut cores rapidly while maintaining a full gauge hole and obtaining maximum recovery in broken, floating or soft formations, the Globe Oil Tools Co., Los Nietos, Calif., has developed a new type K coring equipment. The improvements include a larger-diameter core, a perfected method of directing circulation to keep the blades clean, circulation ports close to bottom to wash away cuttings, a dog-type core-catcher which is positive in operation, a floating inner barrel assembly without threads which permits the use of lighter pipe, and elimination of the use of tongs on the inner barrel.

The diameter of the core recovered with the type K outfit is said to be about 50 per cent greater than the one taken by the old-style core barrels. It is asserted by the manufacturer that this increased core diameter provides a greater percentage of recovery owing to the increased columnar strength of the core; that it minimizes the hazard of washing away cores taken in soft formations; and that it secures maximum drilling speed by having correspondingly less formation to be removed by the cutting blades.

The complete outfit includes the outer barrel, top sub, lifter sub, lower barrel sub, bit head sub, inner barrel, valve assembly, water connection, core pusher and bit breaker.

Safety Is Featured by FWD in Its Line of Trucks for 1936

The Four Wheel Drive Auto Co., Clintonville, Wis., has stressed safety more than ever in its 1936 line of trucks. Along with this feature the company has combined beauty in the streamlined fenders, hood and cab. The safety features include the set-back front axle and powered front wheels, which make for positive steering through a more equal distribution of power and load. The truck can be driven on all kinds of roads under difficult weather conditions without sluing on curves and uneven ground. Rapid acceleration is provided by the extra-traction of four driving wheels and the high torque of the heavy duty motor. Quick stopping is made possible by two sets of independent four-wheel brakes. Alloy steels throughout give ability to withstand the strain of heavy loads. In addition the company has adopted a triple line of defense against carbon monoxide.

Bailey Draft Controller

A self-contained furnace draft controller requiring only a draft connection to the furnace and a supply of compressed air at approximately 35 pounds pressure has been developed by Bailey Meter Co., Cleveland, Ohio. This controller accurately measures furnace draft with a large sensitive diaphragm, the movement of which actuates an air pilot valve admitting pressure to one end or the other of a drive cylinder until the damper position or fan speed has been changed sufficiently to restore furnace draft to the desired value.

The advantages of stainless steel are interestingly presented in a seven-color booklet prepared by Joseph T. Ryerson & Son, Inc. This booklet photographically presents stainless steel articles and shows Allegheny stainless steel applications.

Crude Oil Prices in California

STANDARD OIL CO. OF CALIFORNIA

Effective December 6, 1935, and met by all other purchasers. (Ventura Avenue and Belridge posted by Associated Oil Co.; Rincon by General Petroleum Corp.) All gravities above those posted take highest posted price in the field.

Gravity—	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canon	Athens Rosecrans Domingues	Elwood Terrace	Torrance	Richfield	Ketteleman Hills	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Elk Hills Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	Ventura Avenue	Rincon	Belridge
14-14.9	$.75	$.74	$.73	$.74	$.75	$.71	....	....	.75	.71	....	$.71	$.72	$.73	....	$.65	....	$.65	$.65	$.65	....	....	....	.65
15-15.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	....	.71	.72	.73	....	.65	....	.65	.65	.65	....	....	....	.65
16-16.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	....	.71	.72	.73	....	.65	....	.65	.65	.65	....	....	....	.65
17-17.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	....	.71	.72	.73	....	.66	....	.65	.65	.65	....	....	....	.65
18-18.9	.75	.74	.73	.76	.75	.73	....	....	.75	.71	....	.71	.72	.73	....	.65	....	.65	.65	.65	....	....	....	.65
19-19.9	.75	.74	.74	.77	.75	.75	....	....	.77	.73	....	.71	.72	.73	....	.65	$.65	.66	.68	.66	$.65	....	....	.68
20-20.9	.76	.74	.76	.79	.79	.77	....	....	.78	.71	....	.73	.72	.73	....	....	.65	.68	.71	.67	.65	....	....	.71
21-21.9	.78	.74	.78	.81	.81	.79	....	....	.80	.71	....	.75	.72	.75	$.73	....	.65	.71	.73	.69	.65	....	....	.73
22-22.9	.80	.74	.80	.82	.84	.81	....	....	.81	.73	....	.77	.72	.77	.73	....	.66	.74	.75	.71	.67	.73	.69	.75
23-23.9	.82	.77	.82	.84	.86	.83	$.79	....	.83	.75	....	.79	.74	.79	.73	....	.67	.77	.77	.73	.69	.76	.71	.77
24-24.9	.84	.80	.84	.86	.88	.84	.81	....	.84	.77	....	.80	.76	.81	.76	....	.69	.80	.80	.75	.71	.77	.73	.80
25-25.9	.86	.82	.86	.87	.91	.86	.83	....	.86	.79	....	....	.78	.82	.77	....	.71	.83	.82	.77	.73	.79	.75	.82
26-26.9	.88	.85	.88	.89	.93	.88	.86	....	.88	.81	....	....	.80	.84	.79	....	.73	.86	.85	....	....	.81	.77	.85
27-27.9	.90	.88	.90	.91	....	.90	.88	....	....	.83	....	....	.82	.86	.82	....	.76	.88	.88	....	....	.83	.79	.88
28-28.9	.92	.90	.91	.92	....	.92	.90	....	....	.85	....	....	.83	.88	.84	....	.78	.91	.90	....	....	.85	.81	.90
29-29.9	.94	.93	.93	.94	....	....	.93	....	....	.87	....	....	.85	.90	.86	....	.80	.94	.92	....	....	.87	.83	.92
30-30.9	.96	.95	.95	.95	....	....	.95	....	....	....	....	....	.87	.92	.89	....	.83	.97	.94	....	....	.89	.85	.94
31-31.9	....	....	....	.97	....	....	.97	....	....	....	....	....	.89	.94	.91	....	.85	.99	....	....	....	....	....	.95
32-32.9	....	....	....	.99	....	....	1.00	....	....	....	....	....	.91	.96	.93	....	.87	1.02	....	....	....	....	....	.96
33-33.9	....	....	....	....	....	....	....	$.99	....	....	$.95	....	.93	.98	.95	....	.89	1.04	....	....	....	....	....	.97
34-34.9	....	....	....	....	....	....	....	1.01	....	....	.97	....	.95	1.00	.98	....	.91	....	....	....	....	....	....	.98
35-35.9	....	....	....	....	....	....	....	1.03	....	....	.99	....	.97	....	1.00	....	....	....	....	....	....	....	....	.99
36-36.9	....	....	....	....	....	....	....	1.05	....	....	1.02	....	.99	....	1.02	....	....	....	....	....	....	....	....	1.01
37-37.9	....	....	....	....	....	....	....	1.07	....	....	1.05	....	1.00	....	1.04	....	....	....	....	....	....	....	....	1.03
38-38.9	....	....	....	....	....	....	....	....	....	....	1.08	....	1.03	....	1.07	....	....	....	....	....	....	....	....	....
39-39.9	....	....	....	....	....	....	....	....	....	....	1.11	....	1.05	....	....	....	....	....	....	....	....	....	....	....
40-40.9	....	....	....	....	....	....	....	....	....	....	....	....	1.07	....	....	....	....	....	....	....	....	....	....	....

Playa Del Rey prices f.o.b. their pipe line. Elwood Terrace prices f.o.b. ship.

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